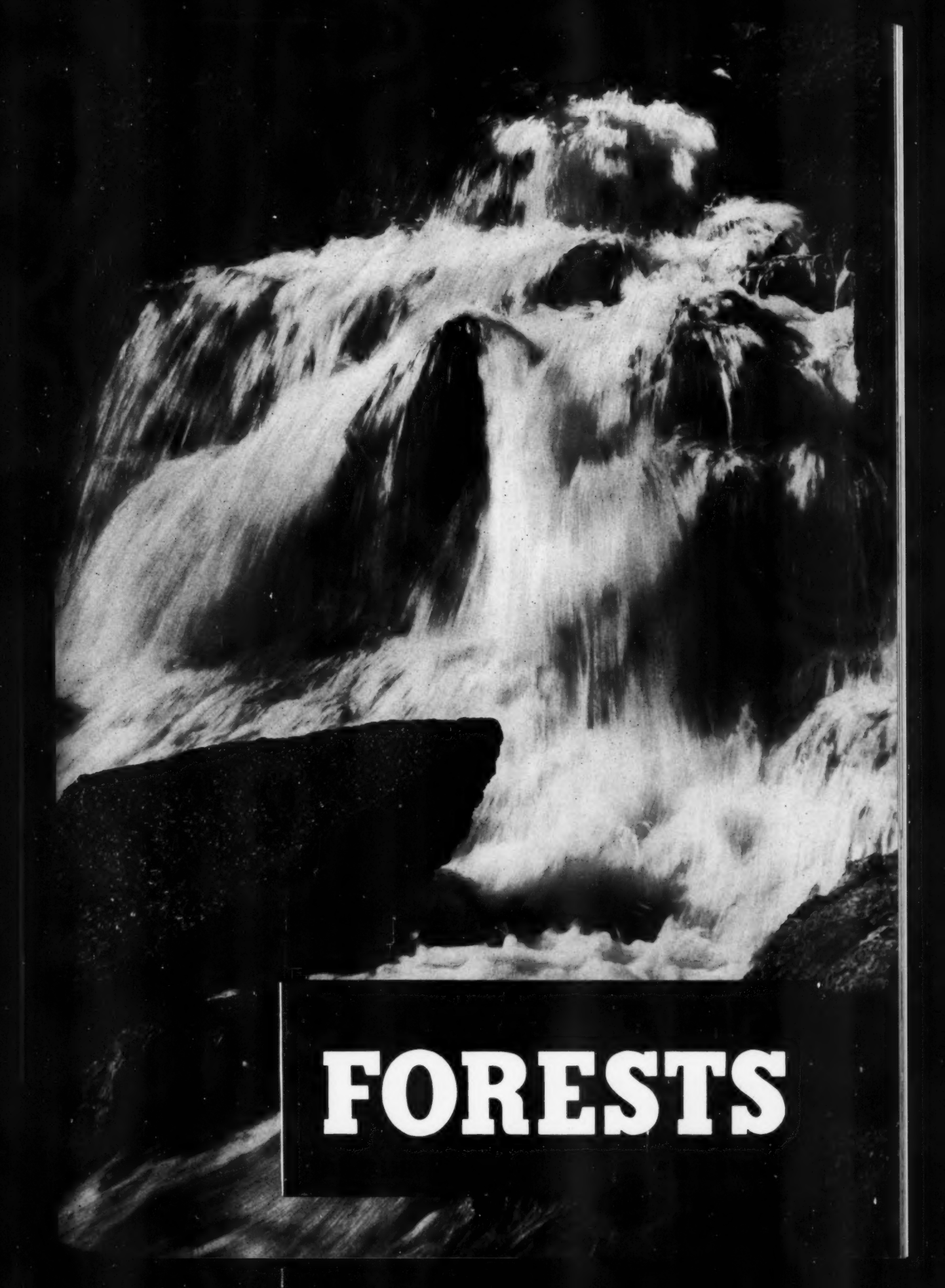

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# AMERICAN FORESTS

Published by The American Forestry Association

VOLUME 54 AUGUST, 1948 NUMBER 8

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AMERICAN FORESTS is published monthly by The American Forestry Association. Publication office, 919 Seventeenth Street, N. W., Washington 6, D. C. Subscription price $5 a year. The Editors are not responsible for loss or injury of manuscripts and photographs while in their possession or in transit. All manuscripts should be accompanied by return postage. The Editors are not responsible for views expressed in signed articles. Notices of change of address for *American Forests* should be received by the tenth of the month preceding issue. Entered as second-class matter at the Postoffice at Washington, D. C., under the Act of March 3, 1879. Acceptable for mailing at special rate of postage provided in Section 1103, Act of October 3, 1917, authorized July 10, 1918. Additional entry at Baltimore, Maryland, December 29, 1931. Copyright, 1948, by The American Forestry Association.

Water Lilies

# A PROP FOR PROPAGANDA

By ROBSON BLACK

A learned man said, "We save only what we value." Does not this little phrase provide a lexicon of experience and inspiration to all who talk the lingo of "selling the public" on forest management? Does it not explain the mind of a state legislature or a bushwhacking jobber or the owner of a farm woodlot? The "forest conscious" person must first be "value conscious." This may have nothing whatever to do with a personal "profit motive." It may, and indeed must, be the urge of the outright patriot who hitches himself to the cause of the perishable resources and helps to direct them to some better end than to perish.

The "value," in turn, may have to do with all manner of aims that we regard as valuable. Watershed cover, for example, or windbreaks, or scenic embellishment, or to arrest erosion. But *value* there has to be, whether for personal or social gain.

A large part of a lifetime spent in public education in resource management has convinced the writer that forestry propaganda should never succumb to the technique of mass production and assembly lines. It doesn't belong there. A fortune has been spent in sending woodlot folders to multitudes of farmers; in many states the results have been negligible and in others the use of printed teaching has been wholly discontinued. The farm woodlot owner just isn't amenable to coaxing by letterpress. The long-established neglect of woodlots reacts to but one form of argument: the well-managed woodlot puts money in the bank. Most farmers consider their treed area as a rag-tag remnant of the original wilderness, *subtracted* from the profit-making portions of their homestead by poor soil and site. As a self-regenerating crop that furnishes fuel and small timbers for the farm and commercial logs for a hungry market it is as yet the most sluggish element of agricultural economy. The amazing advances in farm "know how" have as yet touched only the fringes of the four million woodlots representing perhaps the most potent of all factors in our North American timber problem.

Evidently there are masses of the American public that cannot be budged from their traditional bad forestry practices by any sort of "selling" campaign based upon printed texts and tinted graphs and radio chats. This clearly is one field where things are made to happen by practical demonstration, and by tactful human contact as between the forester and the farmer; witness such examples as Indiana, New Jersey, Connecticut, to mention only three states of varying location and size. Almost wholly, these and other states accepted the farm woodlot situation as beyond hope of self-redemption, and dependent upon technical initiative to set it on its feet. It furnishes one of the most cheering illustrations of how the public welfare is enhanced by furnishing technical guidance to the private woodlot owner. (In passing, it may be well to remark that where the state forester or the university or government departments of agricultural extension have made the fullest success of their forestry mission to the farmer, it is largely due to selection of contact men who have a natural liking for farms and farmers; in no sphere is the academic city-slicker so grossly misplaced or so sure of a rebuff.)

The case of the farm woodlot is used here to illustrate our contention that propaganda, once regarded as a buckshot prescription for all the ills of forestry occurring in any section of the national body, has become merely the name of a force which, in given cases, may be useful or useless.

To be useful, propaganda has to establish *value* for the thing requiring conservation. Furthermore, the value stated must suggest what the reader or listener himself values. In preparing literally thousands of radio "spots" for use by more than 100 broadcasting stations during forest fire seasons, the writer never consciously mentioned timber as such in a single case. Always, the forest became the habitat of wildlife, the guardian of streams for good fishing, the reservoir of pay-envelopes for industry, the magnet to tourist trade—all of them synonyms of human approval. On innumerable occasions the radio appeal purported to come from "three hundred fire rangers in this district" (or other such palsy-walsy groups) who were fighting hard to save the best fishing waters from the fire fiend. The name of a government, or industry, or public official never achieved mention.

It may take on an ugly significance to suggest that forest fire prevention prospers best when kept in line with commonplaces such as fishing and selling groceries to the tourist. After all, it is the best possible reason why the angler and the storekeeper may choose to put out their campfires and snuff their smokes. It matters nothing *why* a man avoids a forest fire, so long as he does. The tough job is to get him to do it.

One might retort that propaganda for forest protection should rely upon a more altruistic definition of community welfare. Some day it probably will, but not just now. Two factors weigh against it. Only to a degree has the American public taken to heart the social menace of a descending timber supply. Too many generations of school children have been indoctrinated with the fairy tales of illimitable natural resources; the mischievous optimism of such teaching still controls public thought. And then, one should take account of public sentiment pertaining to commercial use of the forests — not yet a matter of warm-hearted comradeship between the timberman and the townsman. In any case, there probably are 100 times as many Americans interested in the woods for recreation than as a source of newsprint and two-by-fours.

*In propagandizing such people to get their help in the fire problem, you take them as you find them. You begin where they begin and you leave them before they leave you.*

Public instruction in forestry at varying times and places goes far beyond the negative business of fire and sets up the prospect of permanent forest assets made possible by rational

**THE AUTHOR**, for many years an outstanding leader in conservation, is president of the Canadian Forestry Association.

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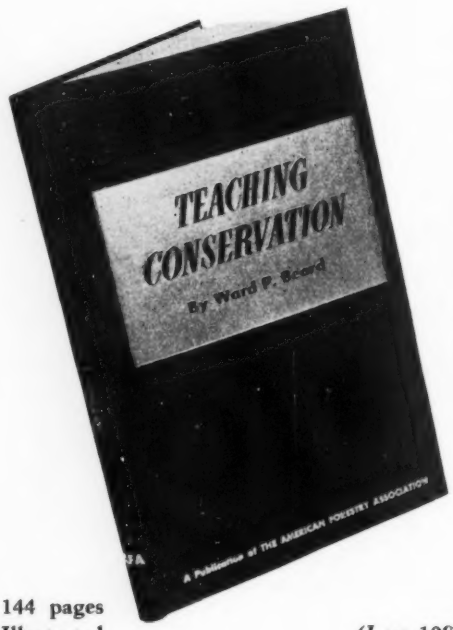


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# TEACHING CONSERVATION

By WARD P. BEARD

*Assistant Director, Vocational Education, U. S. Office of Education*
*Formerly Education Specialist, U. S. Forest Service*

Designed especially to provide teachers with the basic understandings for effective teaching of conservation in the school, this book sets forth (1) a proper concept of conservation by use of certain facts about natural resources and (2) the educational principles to be followed in using natural resource information to give students an understanding of conservation.

*Published by*

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management. The writer's experience in this enterprise suggests that where the layman's verdict is vital to the matter in hand, he is readily won over by proving the values that sound forestry will bring to his children. Postmortems on some slovenly or rascally practices of the past may create mourners, but never converts. Every man willing to listen to an argument on forestry as a social utility is investing his good-will in "futures." Instinctively, he shrinks from the long time-element inescapable in any scheme of forest management, but it is not usually difficult to create a sympathetic parallel between the rewarding growth of a new generation of forests and his own intimate concern for the life-span of his offspring. One may contend that the time-element covered by his planning for children and grandchildren is quite sufficient to cover the evolution of a community woodland. It sounds a lot better when argued that way.

Whatever the circumstance in which the forestry crusader finds himself, his propaganda demands most cautious objective analysis. Wherever a few are gathered together — and particularly a few big-shot business executives—a spate of propaganda quickies is bound to follow. No subject so readily looses the tongue of the average man who would not think of offering his advice on obstetrics. Bring up "propaganda" in a business meeting and the rafters ring with finalized pronouncements. It is well, however, in the domain of forestry, to seek out the newspaper editor, the garage mechanic, the sportsman's outfitter and guide, the fire ranger and the ranger's wife. They will probably by-pass the sloganeer, the professional copywriter, the high-hatter. But they will furnish a reliable code of *values*. And for decoration they may suggest sincerity.

---

The Bolivian government has established certain controls over the exploitation of forest lands in that country. In addition to reaffirming the continued effectiveness of certain previous regulations, a decree stipulates that agriculturalists must receive from their respective departmental prefects permission for cutting trees in order to clear the land for farming. Firms exploiting forests commercially must receive previous authorization directly from the Ministry of Agriculture which is authorized to refuse any requests that it considers to be incompatible with the public interest.

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# Editorial

## The Eightieth Congress

Considerable encouragement may be found in the appropriation figures approved for the major conservation agencies for the fiscal year ending June 30, 1949 (see page 368). Despite sincere efforts to reduce government expenditures, the solidity of the overall conservation appropriation structure has not been weakened. This tends to prove that legislators recognize the soundness of our investments in preservation and development of the nation's natural resources and are aware that the general public stands four square behind these investments.

In general, the record of the 80th Congress displays an awareness of conservation needs. Constructive measures were passed—but equally important, Congress permitted many bills detrimental to sound conservation to die with little or no action. Much of the record had as its background the vociferous and persistent efforts of conservation organizations, always alert to the needs of the resources and to implications and probable results of legislative proposals. It was such efforts, for example, that forestalled the incipient "land grab" in western forest and rangeland.

Equally significant, however, is the critical condition of many of our natural resources—and the fear that the United States, the proud possessor of abundance in almost every bounty of nature, will surely, and not very slowly, become a have-not nation—if defensive and constructive measures are not supported. Increases in funds for management and protection of national forests, for forest and range research, for soil conservation research and operations, for management of lands under the Department of the Interior, for national parks and for the Fish and Wildlife Service, the latter receiving the largest appropriation in its history, are indications of healthful attitudes on Capitol Hill.

This does not mean that the vigilance of conservationists may be relaxed. Abusers of privileges, self-seeking interests and ignorance of the social and economic values of our resources to the people as a whole remain as real and potential dangers to conservation progress. The need for education, the need for better planning, the need for better coordination and administration in conservation, even the need for more and wiser use of funds continue as challenging fields.

That some of these are recognized by the Congress is shown in the language of its reports and its acts. Greater efficiency in federal agencies and more conservation return for the conservation dollar have been urged. Measures looking toward greater coordination have been introduced. All this is to the good. The legislators are not taking their conservation for granted as something which can be bought by appropriations alone. Neither should the conservationists outside the halls of Congress.

## Fire and Weather

As we move into the second half of 1948, dispatches from the tinder-dry Southwest tell of serious fires in the national forests of Arizona and California, while New England farmers complain of a protracted rainy season that makes haying all but impossible. Thus we are reminded anew that the United States is a vast country of several definite and different climates, yet, almost everywhere subject to recurring fire hazards.

Forest conditions vary from region to region, and because of the climate factor the problem of fire in the woods takes on seasonal aspects of vital moment to the people of each of the regions.

From the summit of the Rockies westward the forest fire hazard is related to weather that moves in from the Pacific. This normally provides moisture rather generously for eight or nine months of the year, but leaves most of the country dry throughout the summer. Fortunately, the fire danger season started late this year, but it is already acute in spots.

The southern states, where as a rule there is widespread fire damage during the windy months of late winter and early spring, have experienced unusually favorable weather and a marked reduction in the number of fires. Yet this is no safe basis for complacency, since autumn and early winter normally bring a second fire danger season. And this year there will be a greatly augmented cover of inflammable vegetation, a "dividend" from bountiful spring rains.

In the Lake States as well the spring and early summer have been characterized by more than normal moisture. Here, too, are greater than usual coverings of annual plants. More dangerous, perhaps, are the really staggering accumulations of debris left by several years of accelerated log and pulpwood production. A dry late summer or fall can spell catastrophe.

The Atlantic seaboard remembers 1947, and already there is worry over the manner in which 1948 weather has followed last year's pattern. Lush vegetation, great timber harvesting activity, and heavy vacation travel combine here as elsewhere to set up a situation inviting further disasters if, as was the case in 1947, drought follows excessive moisture.

Since little can be done about the weather, it may logically be asked, "Why all the stir?" The obvious answer is that in any year, whatever the weight of climatological factors, the human element always takes a dominant place in the fire picture. So, the more people that can be made aware of this danger the nearer we are to achieving forest protection.

By and large, organization for protection is improving yearly. In many states it has reached high levels of excellence. But human carelessness still has the power to throw unbearable suppression loads upon even the best organizations. So once more we raise the challenge to all Americans.

Let us face the fact that 1948 will bring its quota of fire hazards in our forests and that the outdoor manners of ordinary people will again determine whether catastrophe will ensue —and where.

**"In Alpine Country" — Glacier National Park. Kabel Art Photos**

**Forest fire is the most destructive force at work undermining the effectiveness of watersheds**

U. S. Forest Service

# OUR GROWING WATER PROBLEM

**Is the lifeblood of our land running out? Here is one of the most thought-provoking articles ever written on the state of our water resources—and what we must do about it**

**By EDWARD N. MUNNS**

OVER a large part of southern California the expected rains did not come last winter. Day after day the farmers looked disappointingly at the cool blue sky for a sign of dark clouds. In the cities the people went about their business, secretly rejoicing that fair weather was so continuous and there was no need to carry umbrellas or wear raincoats.

But the men who watched over the reservoirs of the cities were getting increasingly worried as the sun shone steadily and there was no break in the fair weather. Cattlemen despairingly saw the grass turn yellow, and farmers noticed the moisture disappearing from the top layers of soil and the earth become dry and dusty. For the first time, irrigation pumps were turned on during the winter season so that the thirsty plants and fruit on the trees would not reach the wilting point. Water was getting low in the municipal reservoirs in the hills, and the streams that turned the turbines of the hydro plants had so little flow that output of electricity was curtailed.

After weeks of abnormal drought emergency measures were launched by one community after another. Then it was that some city folk, too, when they arose in the morning, looked eagerly into the sky and prayed for signs of rain.

They discovered they needed rain when the electric clocks all ran slow. They needed rain because a ban had been placed on all but essential uses of water. People could still use it in prudent volume for drinking and washing up, but not for running showers or baths. In some localities they were forbidden to water their lawns or shrubs, or sprinkle their flower beds. They could not wash their cars, now heavily coated with dust from the city streets and country

**THE AUTHOR**, internationally known for his research in watershed protection and development, is chief, Division of Forest Influences, U. S. Forest Service.

roads. The fountains in the squares were turned off; the public baths and swimming pools closed; and the air conditioning systems in stores, homes, and factories temporarily put out of use. Some of the wealthier residents brought in water by tank truck and paid fabulous sums to give their lawns and flower gardens an extended wetting.

In the Central Valley the drought had dangerously depleted the pastures. Cattle could not get enough to eat from the stunted stands of grass. As water failed, dairy farmers had to send cows to slaughtering pens. Range cattlemen shipped thousands of steers to the greener pastures of other states.

The situation I have just described recurs all too often in the United States. It is becoming more and more common in the arid and semi-arid western regions and is not entirely unknown in the more humid East. It is in part due to the adversity of weather. But it is also due to the inability of some of our lands to produce a sufficient supply of clean, sweet water for the ever increasing demands of an expanding economy and growing population. This inability stems from the abuse and mismanagement of our watersheds.

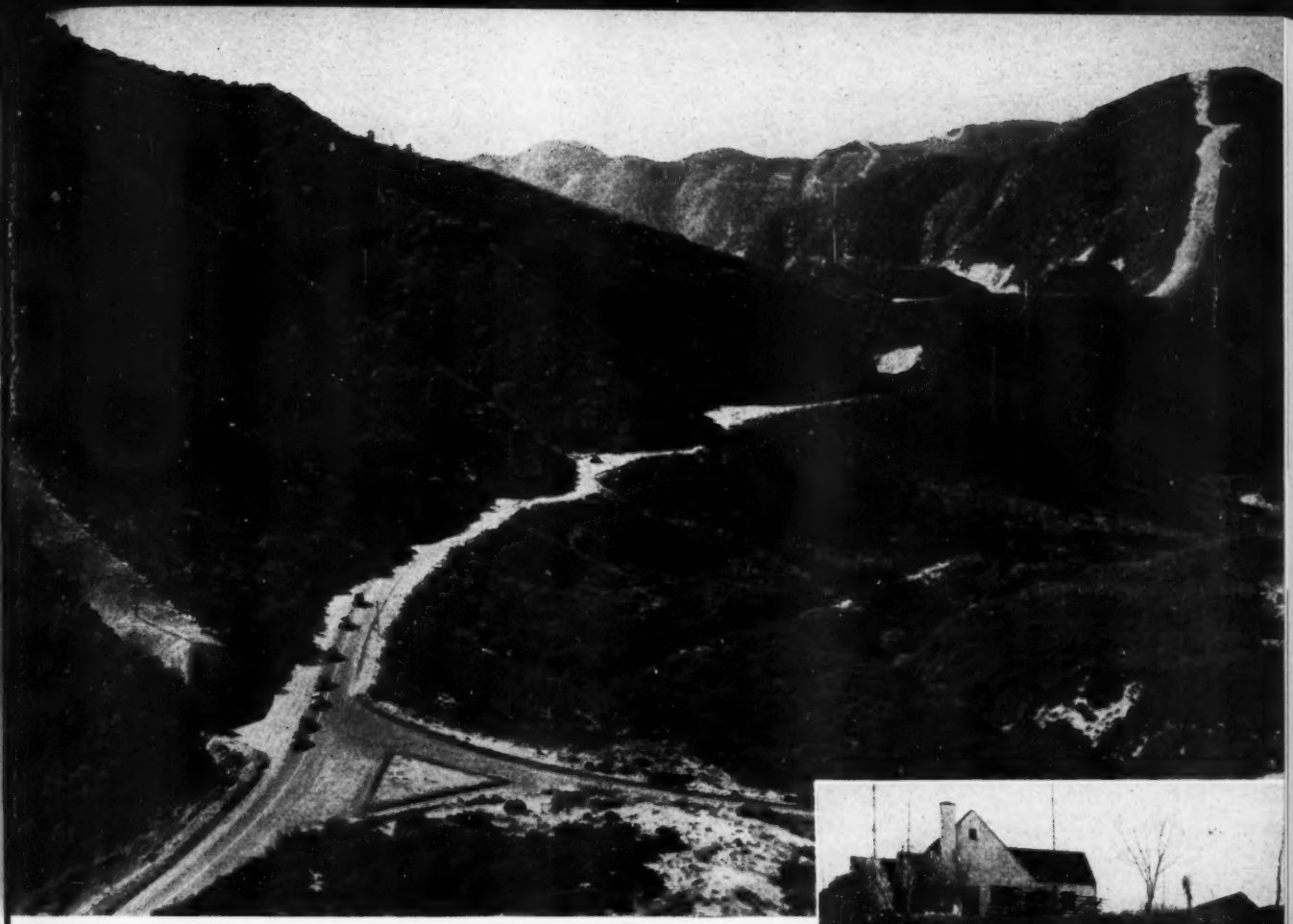
Communities are plagued by shortages of water or by damaging or catastrophic floods. All of our rivers were given to frenzied upsurges before any white man laid eyes on this continent. But three centuries of settlement have enormously stepped up the rate and extent of floods. Many streams now frequently overtop their banks after the melting of snow in the spring, or the heavy prolonged rains, and wreak havoc along their flood plains. Like the recent flood on the 1000-mile stretch of the Columbia River, levees, dams, dikes and other works thrown up by man cannot tame or halt the rampaging waters. The soils on the drainage basins, particularly in the forested areas, are no longer able to absorb and store as much water as under undisturbed natural conditions. The smaller tributary streams likewise go to flood stage more frequently and the destruction they do, which usually receives little notice or publicity, is probably greater in the aggregate than that of the more spectacular floods.

Without minimizing the flood situation, it is obvious that shortages of water for the manifold and multiplying uses of modern life pose serious problems to many communities. The town fathers must always see that water supplies keep ahead of city growth and demand, hence they reach out farther and farther to pre-empt rights on usable watersheds.

Like the struggle of desert tribes for the rare oasis, competition for water "holes" is leading to bitter disputes. Los Angeles, desperately coping with the water needs of a war- and postwar-swollen population, is tapping the lower Colorado River 250 miles away, and not only is barring

**Engineers estimate that if the present high rate of siltation (shown at left) continues, the life of Lake Mead behind Hoover Dam will begin to wane by 1985—that the gigantic reservoir now so vital to the Southwest and southern California will be practically useless by 2085**

F. E. Dunham



F. E. Dunham

**High-speed roads, like the popular Angeles Crest Highway that zigzags through the mountains of southern California, are exciting—but too often they lead to recurrent, seemingly incurable slides which, under certain conditions, contribute to flood damage**

towns on its periphery from access to its mains, but is engaged in a dispute with upriver states for additional rights to water of the Colorado. New York is casting envious eyes upon the Connecticut River, which Boston also claims as its own, and has already been in the courts with Philadelphia over her rights on the Delaware River watershed.

Not only is the available supply running short in many sections of the country, but the quality of water reaching municipal reservoirs is deteriorating, owing to the mud washing down from eroding lands and to the sewage and industrial wastes dumped into the streams. Greater investments in filtering plants and heavier costs of treating water are constantly required.

Irrigation agriculture is also suffering from short and undependable supplies. Because ground waters have been overpumped, wells must go deeper and deeper. Already a considerable acreage of irrigated land has completely gone out of production in the San Joaquin Valley of California because the vast underground reservoir basins in which the rains of centuries were accumulated have been pumped out. In other areas, so heavy has been the draft on the ground water that salt water has replaced the fresh, making it absolutely unsuitable for either irrigation or domestic use.

Industry is also looking to its water supply. Many industrial processes take a lot of water—65,000 gallons to cool a ton of molten steel, 3600 gallons to make a ton of coke, 180 gallons a barrel of crude oil. Industrial sites with an adequate supply of water are fast becoming rare "commodities," according to the U. S. Geological Survey. Because of declining streamflow or lowering water tables—that under the city of Louisville, Kentucky, for example, has dropped forty feet in the past ten years—many industries are treasuring their water.

Reservoir sites for water power and associated services are no longer plentiful. Indeed, they can now be classed as non-renewable natural resources, for once they become largely filled with sediment their practical usefulness is gone forever. Most of the inexpensive sites have already been occupied—storage in each new development will be ever more costly.

Many people in the United States are becoming well aware of our water problems. They meet them on every hand. However, the basic causes that lie behind them are not generally un-

derstood except among a relatively few scientists, foresters, agricultural engineers, hydrologists, and others. It is difficult for the city resident to realize that he cannot get all the water he wants because the forested mountains or ranges hundreds of miles away may have been mishandled for generations. Nor can the average farmer, seeing his irrigation canals choked with silt or his wells go dry, grasp the essential fact that the water supply on which his economic well being depends may have been ruined by improper land use. Nor does the newspaper reader in the subway or his office relate the item about flood damages to lands he never heard of. Nor does the housewife realize that the size of her water bill or the taste of the water she drinks is affected by watershed conditions and uses.

Grazing is a major source of watershed deterioration over extensive areas. For decades many of our forest and open ranges have been overstocked. Cattle and sheep have chewed off the grasses and other forage plants, thus severely thinning the cover; their sharp hoofs have broken the sod; and their trampling has compacted the soil.

It is commonly observed that overgrazed ranges, especially on steep mountain slopes, are highly susceptible to erosion. Water runs rapidly off the surface instead of percolating into the soil and the soil itself—once erosion sets in—may be carried away by water and wind. On millions of acres of rangelands accelerated erosion is now in progress, arroyos and gullies are on the march, and millions of tons of soil are being washed annually downhill into the valleys and streams.

Clearing and cultivation of hilly land may be equally disturbing to soil and water relations. For example, many inches of precious topsoil have been eroded from large areas in the Piedmont as an aftermath of extensive and unwise agricultural practices. This has been a prime cause of water "pinches" and floods in the region.

Lumbering operations, like grazing, have materially reduced the watershed values of our forested mountain regions. In far too many areas timber stands have been cut clear, with insufficient trees left to maintain the ground cover or restock the land. The soil has been exposed to the ravages of wind, water and sun. It takes a long time to repair the damage from soil deterioration. On a beech-birch-maple forest, 100 years or more are needed fully to rebuild the soil and humus after clear-cutting. On other forest types it may take even longer.

Logging techniques are often highly injurious to the watershed, especially in rugged terrain. Not only does the moving equipment damage and mutilate young trees, but the dragging of heavy logs down slope digs channels in the forest floor, which are responsible for gullying and the initiation of new drainage patterns—patterns that may speed up the rate of water movement from the watershed for centuries, to say nothing of the damage caused by the eroded soil.

Because of improper layout and poor maintenance, logging roads that run through meadows have contributed greatly to watershed damage. By breaking the meadow sod, they have initiated gullies that have ruined the great detention reservoirs existing in the meadow lands. This has indirectly caused even larger damage for, as the carrying capacity of these rich lands is lost, grazing pressures and consequent damage to sloping lands also increase. Then, too, by improper drainage—or the lack of it—they have caused clear waters to run muddy, have promoted flood runoff, and have been responsible for decreased low-water supplies. By this adverse effect on streamflow, they have seriously damaged, and in places destroyed, the fishing resource.

More dangerous, however, than any of these practices are the ubiquitous forest fires. Their devastation is concentrated and immediate. The vegetative cover is thinned or destroyed; precious litter and humus are consumed; fungi, bacteria, and the myriads of microarthropods in the soil killed; and habitats of insect and animal life erased. After a mountain watershed has been thoroughly gutted, it is a potential source of floods to communities below, as some towns in southern California—to select but one area—have discovered to their dismay.

**The properly managed forest will produce both water and timber—as well as other products**

U. S. Forest Service

**Logging techniques are often injurious to the watershed, with dragging logs responsible for gullying and the initiation of drainage patterns that speed the rate of water movement**

Lumbering and grazing have damaged our watersheds on a vast scale. Mining and smelting operations have left deep scars on smaller and more concentrated areas. Placer mining has utterly ruined pleasant and valuable streams, while strip coal mining is responsible for the discharge of acid wastes into numerous water courses.

Highway builders are responsible for some of our water problems, too. In picturesque mountain regions, roads and highways have often been built without any consideration for watershed values and with techniques that help to start erosion and gullying. For example, excess materials are frequently dumped in the handiest places to get them out of the way. Drainage from the road accumulates and is turned loose in the nearest spot to dig new gullies. The cannon-type culverts help to increase the erosive power of the concentrated drainage waters. Worse still, the cuts and fill-slopes are not stabilized but left bare to erode with every rain, thus despoiling streams that should be crystal clear.

Scenic roads like Skyline Drive and Blue Ridge Parkway in the East that provide thrilling routes have caused the forest to recede and increased the susceptibility of the areas to erosion, slides and floods.

In regions of geologic instability the dynamiting of mountain slopes and construction of high-speed roads, like the popular Angeles Crest Highway that zigzags through the cone-shaped mountains of southern California, have led to recurrent, seemingly incurable slides and slumps.

To the injuries so far mentioned must be added the damage to the watersheds by the building of towns and cities and the opening up of vast areas to recreation seekers. The destruction of the forest cover to make way for city streets, boulevards, playgrounds and other municipal developments is, of course, inevitable, but it accentuates runoff and sedimentation problems. Take Washington, D. C., as an example. Rock Creek, which winds through the northwest section of the capital and some of the Maryland suburbs, drains a watershed of sixty-five square miles. After a heavy rainstorm this normally limpid stream is filled for days with ugly, yellow mud washed off the pavements, streets and

roads of the thickly-inhabited watershed. Some fords are no longer usable because of gravel deposition.

What are some of the consequences on a geographic basis of widespread deterioration of our watersheds?

Perhaps the Rio Grande drainage basin, which embraces parts of New Mexico and Texas, is the most critical example. Settled in the sixteenth century by the Spaniards, it has been subjected to over 300 years of continuous and often abusive land use. On the eighteen million acres of the upper Rio Grande much of the soil and its protective cover has been seriously impaired. Rapid accelerated erosion has already claimed over one-third of the area and on another forty percent active land destruction is in progress. On the ranges forage production has declined by at least half since the white man first came into this region. The bed of the Rio Grande has been filled with so much silt over the centuries that it has risen to the level of adjacent valley lands. Thousands of acres of once fertile soil are waterlogged—85,000 acres in the Middle Rio Grande Conservancy District alone—ruined for farming.

The river itself has become a much more undependable stream, the discharges fluctuating widely—from 220 percent above the average to only eighteen percent of the average.

Nor is this all. With the protective top soil and cover gone, floods recur annually and are getting worse in the Rio Grande basin. The useful life of the great Elephant Butte Reservoir will be short and swift so long as sterile silt continues to reduce its capacity by over 18,000 acre-feet annually. And McMillan Reservoir on the Pecos River, a tributary of the Rio Grande, is virtually filled with silt after a brief span of forty-six years—a tremendous loss to society.

The vast Colorado River basin, a rich source of water, covers about one-twelfth the area of continental United States. On its flow depends the sustenance of over 2,250,000 acres of fertile crops and pasture land in Arizona and California. Altogether. the Colorado is furnishing 7,000,000 acre-feet of water annually to seven states — not including the drafts of the Republic of Mexico.

Perhaps the most serious threat to the Colorado's usefulness is the alarming siltation of Lake Mead, the 115-mile long reservoir above Hoover Dam. erected at a cost of $165,000,000. Impounding 32.000,000 acre-feet of water. Lake Mead was designed to supply irrigation water for 500,000 acres of fertile land in Arizona and California, furnish drinking and industrial water for southern California, provide flood protection on the lower Colorado, and generate much-needed hydroelectric power for the Pacific Coast regions. If, however, the present high rate of siltation continues, engineers estimate that the life of the gigantic reservoir will begin to wane by 1985, and a century later it will be practically useless, except for the generation of run-of-the-river power.

The Gila River basin in Arizona and New Mexico is faced with all kinds of land and water problems. Levels of natural underground reservoirs are steadily dropping, threatening the future of the city of Tucson. Like some other municipalities in the West, Tucson may soon be forced to acquire additional water rights and fence out grazing animals and eliminate crop production on its watershed lands.

How to repair and maintain the damaged cover on the foothill and lower mountain slopes which now produce heavy surface runoff and its accompanying debris is of great concern to the cities of Denver and Pueblo, Colorado, and the agricultural interests along the upper Platte and Arkansas rivers. The usual cycle of destructive logging, overgrazing and forest fires have severely impoverished the soil, led to extensive gullying, and filled with sediment the mountain channels which must handle the water pouring down from the high forested slopes.

In the Intermountain region persistent overgrazing has so weakened the water-holding capacity of the soil on many mountain ranges that they have become dangerous sources of "infection." Periodically boulders and mud flows roar out of the canyons to cover cultivated fields and destroy property in the pleasant valley communities. Sometimes these flash floods take human lives. (Incidentally, flash floods from devastated uplands are not confined to the West. Communities in the Piedmont of Virginia have become sadly familiar with this phenomenon in recent years.)

Critical water shortages are also perennial in the Great Basin. To take but one example: the building of the great Geneva steel plant was a shot-in-the-arm to the economy of the region, but it has posed a tremendous water problem. There just isn't enough waterflow in the streams of north-central Utah to keep all the industries, farms and towns in permanent supply.

The problems of the Missouri River basin have been well publicized. Water — too much or too little — is the most critical factor in the lives of its seven million people.

Throughout California practically every conceivable type of water problem is encountered—in years of normal as well as abnormal rainfall. The problems of the Central Valley are unique in dry years. In the fertile San Joaquin basin the available supply falls short of keeping two million acres of irrigated land in full production. The lack of adequate streamflow in the Sacramento River permits the saline waters from San Francisco Bay to back up among the delta islands, putting potato growers out of business until the salt water is washed away. The salt water permits the teredo (a marine mollusk) to attack piling along the waterfront, resulting in failure of wharves and docks.

Southern California harbors half the state's population and contains some of the most valuable cropland in the country. Nowhere, probably, is water so "tight." Cities like Santa Barbara are forced to seek new water supplies as population grows and demands for water reach new highs denudation of the watersheds fills reservoirs with sediment.

San Diego, the great naval base on the West Coast, is literally up against it for water. Although now getting supplies from the Colorado River, nearby mountains still provide the high-grade sweet water, both surface and underground, used to dilute the Colorado water. But the abused cover of the local watershed areas is inadequate to hold back the sediments which are gradually destroying each and every reservoir the city has built.

We have already alluded to the difficulties of Los Angeles. This city has arrived at a peak of demand for water which prewar estimates indicated would not be reached till about the year 2000. If population growth continues and no other supplies become economically feasible, allocations to industry and agriculture will prob-

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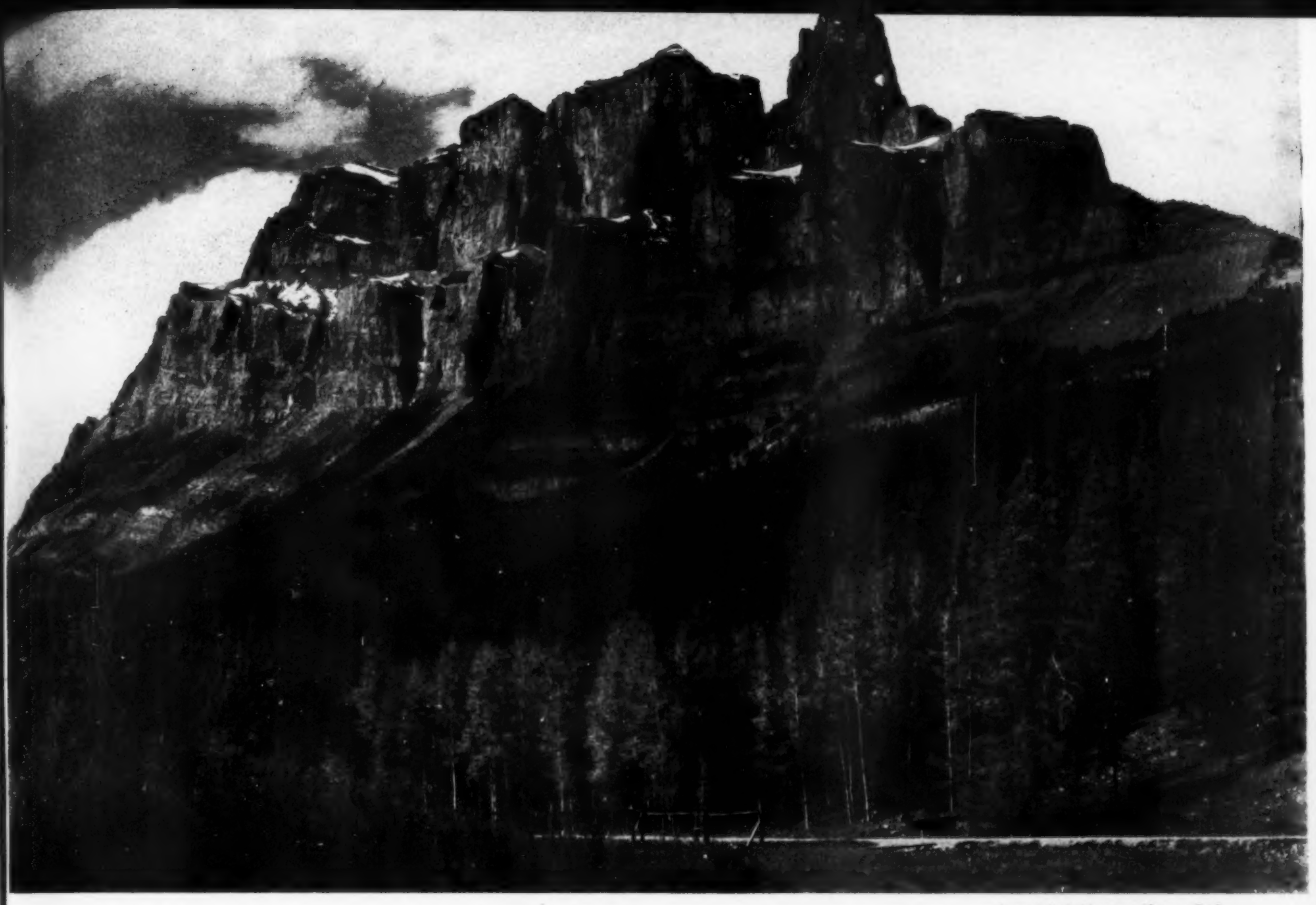

Associated Screen News, Ltd.

**Mount Eisenhower, named for the famous American general, as it appears from the new Banff-Jasper Road**

# CANADA'S NEW HIGHWAYS

Motorists in western Canada will be able this summer to travel two scenic roads opened shortly before Pearl Harbor but up until now little used except for military purposes.

The first of these connects Banff and Jasper national parks, scenic and game preserves together covering an area of 6,800 square miles. It joins the towns of Banff and Jasper—186 miles of gravel-surfaced highway.

Starting at its southern end at Banff, where roads from the United States via Calgary, Spokane, Seattle or Vancouver connect, the Banff-Jasper highway follows the great inter-mountain trench in the Canadian Rockies between snow-capped peaks which form the backbone of the North American continent. It crosses Bow Pass, 6,878 feet above sea level, is bridged across white foaming mountain rivers, and goes gradually down to the mother of glaciers, the Columbia icefield.

With two other branch glaciers far below, the road climbs again to cross Sunwapta Pass, 6,675 feet above sea level. Here deep canyons cross the route and, to avoid these, engineers have designed a series of switchback roads, blasted out of rock walls, making a gentle twisting grade to the valley below. Here the road crosses the spectacular Athabasca Falls by a concrete and steel bridge, and starts to climb again to reach the town of Jasper.

Conveniences for motorists were built in an area which has no towns or settlements of any kind. There are modern chalets, auto bungalow camps, picnic grounds and outdoor fireplaces.

This road connects at its northern end with a road east to Edmonton, and is to be connected westward with a road to Prince George in British Columbia.

At its southern end the Banff-Jasper highway connects at Lake Louise with a road to Golden, British Columbia, where it joins the other new road, the Big Bend-Columbia highway, built along the great northern bend of the Columbia River for 193 miles. This is an area with a rich historical background of exploration and conquest, of fur traders and gold seekers. It passes through a magnificent mountain region within sight of snowfields, glaciers and all the other charms of an alpine world. For the greater part the road passes through unsettled territory, skirts the Columbia River, affording magnificent views of the snowcapped heights of the Selkirk Range and the giant peaks which form part of the main divide of the Rocky Mountains. The road loops the river to connect with roads to Vancouver at Revelstoke.

By JAMES MONTAGNES

# THE DAWN-REDWOOD

**A quest to find a prehistoric race of redwoods in China took Dr. Ralph Chaney's party up the Yangtze River by sampan (upper left). One 100-foot specimen was found at Mo-Tao-Chi (upper right), beneath which natives had built a temple (lower left). Dr. Chaney and a Chinese scientist are shown inspecting a healthy redwood (lower right) found in the Valley of the Tiger**

Young Wu Mei Chin, of Shui Hsa-Pa village, stands at base of a dawn-redwood

Map shows route taken by Dr. Chaney's party into Szechwan Province, China

Needles and seeds from modern California redwood (upper left) and dawn-redwood (below)

## Dawn-redwoods, believed extinct for twenty million years, are found in China's Valley of the Tiger

Photographs by San Francisco *Chronicle*

DAWN-REDWOODS (the genus *metasequoia*), the great prehistoric trees that were kings of the forests when dinosaurs ruled the animal world, are growing in North America again after an absence of twenty-five million years, more or less.

The *metasequoia* is a conifer which was widely distributed over the northern hemisphere in past ages. Its fossil remains (wood, leaves and cones) have been found in Alaska, Greenland, Spitzbergen and northern Siberia, in rocks of Eocene age (sixty million years old); in rocks of Miocene age (thirty million years old) in Oregon and California, Germany and Switzerland, Manchuria and Japan. It was considered to have become extinct some twenty million years ago, since its fossil remains did not occur in rocks younger than Miocene.

About two years ago, reports came from China of the discovery of three trees of *metasequoia* in a village in the interior. One of these living trees was described as large but no photo-

(*Turn to page* 372)

# TAXES AND TREE GROWING

By JOHN B. WOODS

Eighty-eight years is a long time to be kicking one dog around, yet here in the United States we have been fussing with forest taxation since 1861. Even before that, as long ago as 1819, there was debate in New England legislatures over measures to promote tree growing. Up to now, no less than thirty states and eight territories have enacted one or more statutes each, intended to encourage forest ownership and management through lightening the landowners' burden of annual taxes. Bounties have been offered for planting and tending groves of trees. In some states owners of thriving stands have been wholly exempted from property taxes thereon. There have been reductions, rebates and deferments of the yearly bad news, with and without later imposition of yield taxes.

Usually the application of such relief measures has been optional with landowners, although they work automatically in at least two states (California and Mississippi). Early statutes have been revised, repealed and replaced by others as tax legislation styles changed through the years. It cannot be truly said that the tax reformers have failed to function, or that the people of many states have been unsympathetic toward experimentation. Yet the brutal fact appears to be that tax reduction has been neither hugely popular with forest owners nor broadly effective in promoting forestry. Less than one acre out of fifteen in the nation's privately owned commercial woodlands is now affected by such laws. It is a puzzle, leading some students of taxation to question the seriousness of the property tax as a deterrent to forest ownership. More significant, perhaps, is the suggestion recently heard in Maine and widely hailed as making sense, that the evils of taxation can be minimized to a degree, at least, by improvement in the administration of the long-standing property tax itself.

This old reliable device for milking the landowner was set up for the purpose of providing regularly the funds needed to carry on local governments. Other kinds of taxes have been added by the federal government, by states and even by counties and smaller civil units, yet the property tax still stands just about as it has stood since early organization days, and bids fair to continue to be used.

In principle the property tax appears slightly outrageous, since it penalizes the owner who constantly improves his estate and favors the person who allows his property to decline in value. Where crops are grown on the land there may be overassessment of temporary values, and in the case of slow-growing crops as timber trees there may be demands for tax payments at times when the owner has no income with which to pay. Yet the system has many sound aspects in its favor. One might say that the property tax has been more sinned against by incompetent public servants than most statutes; that in careful hands it can be good.

Having adopted from the countries of western Europe most of our early ideas about forestry, it is natural that we should look with interest akin to envy at their almost universal practice of placing only nominal yearly levies against forest lands, while relating the bulk of annual taxes on forestry enterprises to actual income. In theory this appears far better than our American system of appraising yearly the worth of lands, tree growth and improvements and assessing a percentage against each owner's total appraised value in each taxing district, regardless of the kinds of realty or the manner in which it is being used.

In European countries, where land must be worked to the limit to support dense populations, and all forest areas are under intensive management, our American property tax would be regarded as crude and unreasonable. Presumably those countries discarded such systems long ago. Yet while it is true our system can be ridiculed for its variations in levies against similar properties, as well as for other defects, it is firmly intrenched in all our states, and there does not appear to be any strong indication that it will be replaced soon by the income tax. In fact, the usual recourse is to superimpose income taxes upon the old property tax, constantly adding to our tax structure but never giving up anything that can produce revenue.

The significance of taxation in its relationship to forest ownership is not always clear, and should be explained. It can be approached from at least two directions. Early lawmakers, wishing to interest property owners in planting trees for shade and other useful purposes where none had been growing, offered to abate their taxes or to pay outright bounties for such performance. Presumably it was felt that land taxes were burdensome and that relief would be appreciated. On the other hand, in the originally timbered sections of this country there were owners who had secured title to timberlands and, in the course of time, had removed the trees therefrom and were no longer willing to pay such taxes as were assessed against the denuded areas. There was a definite threat that such tracts would be forfeited by their owners and cease to produce revenue for the county and state. So the lawmakers sought to induce owners to hang on, even to grow new forests, by offering to reduce taxes. Thus it came about that modifications of taxing methods applied at first only to new stands, planted or natural, and not to old primeval forests.

In the old-growth forests the property tax has always applied. And up to about twenty years ago, timberland owners were nearly unanimous in their intention to "cut out and get out." Forests were simply convenient places for storing stumpage; the idea of owning such lands long enough to

grow a second crop of trees was fantastic. It was freely said that nobody, either individual or corporation, could afford to do that. Annual property taxes alone were enough to make it impossible, or so they said.

Actually, such complaints about taxes had substantial foundation in fact, as of about 1900 to 1925, and with respect to the conventional timber operation setup of those days. Early lumbermen had acquired their stumpage by various means and at low cost. As their initial enterprises entered the "sugaring off" period characteristic of American lumbering, operators looked about for other stands of timber and invested their profits there. Eventually they repeated the cycle of operation, building mills to process timber from the new stands, and finally again looking further afield for still other timber reserves. In 1925 it was not uncommon for "lumber barons" to own sawmills in the South, untouched primeval forests in the far West, and to have their homes in the Lake States where their activities may have started.

Taxes upon such primeval stands in undeveloped regions were at first extremely low, a few cents upon each acre every year. Even the addition of charges for looking after such lands, protecting them from fire and theft, brought total costs to comparatively small outlays. These the owners capitalized against the time when operations would be undertaken. When conversion began, local taxing authorities welcomed the new industries and the people they attracted to live off their payrolls. Plants and transportation facilities and inventories of products all added to the local tax base. So backwoods communities became busy industrial centers and local governments set about the cheerful business of living up to the fattened public incomes.

As timber reserves melted away before the loggers, county authorities began to experience the disquieting phenomenon of the contracting tax base. Since large lumber operations often had plants and timber reserves in more than one county, it happened not infrequently that one taxing authority would see its revenues drastically reduced by removal of timber, while adjoining counties still were able to levy upon uncut stumpage or physical properties.

The natural result of such situations was that taxing bodies began to "get while the getting was good." Timber taxes were stepped up, year after year, usually by the simple process of increasing valuations, while plants and inventories might be made to yield more revenue by increasing the rates. Bond issues for various local public purposes also added to the woes of lumbermen engaged in wasting or non-perpetuating operations. Such situations were common in all parts of the country where virgin forests still remained and, by 1925, lumbermen and timber owners were painfully aware that property taxes were a serious burden, doubly discouraging to long-time ownership because there was no way to predict what further increases might come.

Underlying such a situation was the fact that investors had been buying the accumulated timber growth of centuries, and now were holding it until they might reap the harvest. Almost always, nature worked against them, reducing the volume of their stumpage by decay, insects, fire and wind. Growth rarely was a factor, since the mature stands usually lost as much each year from natural attrition as they gained through the laying on of annual wood rings. The result of holding such timber was to increase total investment without corresponding additions to volume or improvements in quality. The fact that many such investments paid out handsomely means simply that realizable stumpage values reached levels higher than accumulated costs.

A hue and cry about forestry and the lumberman's responsibility for barren cutovers arose after the first World War, in such volume that many operators were constrained to defend themselves. Implicit in such criticism was a contention that partial tree cutting and even deliberate timber growing would earn profits for owners, so that actually there was no valid excuse for destructive cutting and land abandonment. The burdensome property tax was paraded in rebuttal, as one overpowering obstacle in the path of private forestry. So convincingly was the matter presented to the Congress that Uncle Sam financed a study of the situation, which was made by Dr. Fred Fairchild of Yale, and R. C. Hall, formerly a timber valuation engineer for the Treasury Department. A report was published by these gentlemen in 1933 which cleared away many misconceptions as to the burden of property taxes upon regrowing forests. They suggested a new approach to relief from burdensome taxation through deferment of tax payments.

As has been suggested earlier, encouragement of tree growing has a long history in this country, both with reference to afforestation of non-timbered areas and as stimulus to commercial forestry on cutover lands. According to taxation experts in the division of forest economics, U. S. Forest Service, reporting as of December 31, 1945, two states still offer bounties for tree growing, one has a differential tax of one-half the local rate for lands used exclusively for forestry, two have special fixed assessments to favor tree growers, and thirteen offer outright exemptions of either tree growth or land or both. It should be noted, however, that five of these tax exempt states have also a yield tax to produce income when the tree crop becomes merchantable. Eight other states have special systems built around the yield tax, in effect deferments of tax payments upon land and growing timber.

In only one state, Washington, have the lawmakers faced squarely the old and troublesome problem of tax deferment in the primeval forest. Recognizing that in times of financial stringency, timber owners sometimes are unable to pay their taxes on valuable stumpage reserves, the Washington legislature of 1941 enacted a unique law authorizing county assessors to accept reductions of seven and a half percent of tax payments increasing each year for a decade until seventy-five percent of the levy has been lopped off. Thereafter the tax currently payable remains twenty-five percent of what it would otherwise be, but may not exceed a similar percentage of the assessed valuation of the timber. Accumulated deferred taxes are to be paid when the timber is cut, plus three percent interest which is payable annually along with taxes. This bold attempt to assist timber owners over hard times cannot be judged for effectiveness as yet, since the lumber business has known only prosperity in the seven years that it has been on the statute books.

Quite different but equally bold in its conception is the privilege tax law of Mississippi, enacted in 1940. Here is one state where the old property tax has been superseded with respect to stumpage, although it is retained on the land. All growing, standing timber, trees and shrubs are exempt from advalorem taxes; as is unmanufactured severed timber. Forest products are assessed a privilege tax at fixed rates, payable monthly and deductible by the purchaser of such products from the amounts due the timber owner. The state receives one-third of such revenue, while the remainder goes to the counties where

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**Rocky Mountain bighorn sheep have "nurseries" for their young in the remote mountainous regions**

# WILD ANIMAL SHOW

## From beaver to bison, from marmot to moose—you'll see them all in Yellowstone National Park

By MILDRED J. ERICSON

For those who like wildlife—and this includes about everybody—Yellowstone National Park in Wyoming, offers one of the greatest wild animal shows on the North American continent. The cast includes more than 12,000 elk, 1000 buffalo, 600 moose, 600 mule deer, 600 antelope, 450 black and 200 grizzly bears, 280 bighorn sheep and uncounted numbers of beaver, porcupine, coyote, marmot, squirrels, and others of the smaller animals. Supporting this rare exhibition of big game and small mammals are more than 200 species of birds, including the rare trumpeter swan.

Lynwood M. Chace

The stage for this great show, of course, is vast—the two and a quarter million acres of Yellowstone National Park, most of it still wilderness country, a great, spreading domain of unspoiled natural beauty. In the early morning or at dusk, along its trails as well as its roadways, visitors not only may observe wildlife, but quite often are rewarded by the enactment of little dramas of the wild in which animals, both large and small, are the actors.

No one, of course, can say what a turn in the trail will reveal, but some idea of what goes on across this vast stage may be gleaned from the stories rangers and ranger-naturalists record on animal behavior in the park.

There was, for example, that August afternoon when a ranger-naturalist, trying for a picture, was stalking a black bear on the Mammoth Hot Spring terraces. Bruin suddenly decided he needed a bath and climbed up to one of the pools on Angel Terrace, tested the temperature of the water, and crawled in. There, in a pool four feet long, three feet wide and eighteen inches deep, with the temperature of the water around ninety degrees, he went about his bath with the unconcern of one following a familiar procedure, which indeed it was. Taking a bath in the warm water of the Hot Springs is

probably part of the daily routine for Bruin.

On another mid-summer evening, a large black bear decided to attend the nature campfire talk at Old Faithful. Ambling into the outdoor amphitheater, he selected a choice location and perched himself upon a log facing the motion picture screen. But he chose a rainy night when there was no program. After waiting—with great patience—for a considerable period, he got to his feet in disgust and took off.

Visitors to the park often describe animals they have seen and ask the ranger-naturalists to identify them. When the description is that of a mule deer, the visitor very likely will come back with "But the animals didn't have horns." When informed that the females of the species do not have antlers, many people show great surprise.

So did Chief Park Naturalist David Condon when he discovered a contradiction to this rule—a doe with antlers. "Repeatedly one fall," he declared, "I came across a doe with one antler. It was on the right side of her head, about twelve inches long and had one prong. On the other side, the left side of her head, was a tiny nubbin of an antler. This doe seemed normal in every other respect, and her two fawns were splendid creatures." To back his story, the chief ranger has pictures of the antlered doe with her fawns.

A bit of wildlife drama witnessed by a great many visitors is related by Ranger-naturalist John Thompson. "On my way to Norris Geyser Basin, just south of Twin Lake, and in an extinct hot pool crater, about fifty feet in diameter, I observed a group of elk at play," he related. "The water, now cold, was about twelve inches deep except for the old vent from which it formerly came.

"Here at this shallow pool were six cows, three small calves and five year-old calves. The calves were playing follow-the-leader. One would run through the crater at full speed, splashing water in great profusion, while close behind another would repeat the performance. They reminded one of a group of children at play.

"This sport lasted ten minutes and the animals paid absolutely no attention to the gathering crowd attracted to the scene. The play climaxed when one of the year-old calves, dashing through the center of the pool, hit the old spring crater and vanished from sight with the exception of its head. It soon recovered and continued splashing about as though nothing had happened.

"All the while the old cows looked on and seemed to enjoy the sport. When their audience became too large, however, they withdrew into the trees, with the calves reluctantly following."

Naturalist Harold Broderick discovered that the Rocky Mountain bighorn sheep living high in the rugged crags of the mountains often establish "kintergartens" for their young. The ewes, he said, take turns being nursemaids in this nursery of the wilderness. The little sheep frolic by kicking up their heels, butting their heads together, shrilly bleating and playing follow-the-leader. If the lambs get too rough, their nurse rebukes them with loud snorts. They are given excellent care.

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The pronghorn antelope on the grassy plains of the park also take turns watching their young. One mother was observed watching half a dozen kids, though but two were her own.

Only trained observers and skilled stalkers witness these little incidents in the lives of such solitude-loving big game animals as the bighorn and the antelope. And only Rangers Alcorn and Stevens, on regular patrol near Harebell Cabin read from tracks in the snow the story of the air-minded marten.

"At least the marten took one flying lesson," reported Ranger De Lyle Stevens. "His instructor was a mallard drake which did not survive to give the marten another lesson."

According to the rangers, the tracks in the snow showed where the marten had captured the drake at the water's edge on the Snake River. He

**You've got to be good at stalking to get this close to the antelope—but it's worth the trouble**

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had dragged it about forty feet toward a clump of fir trees, where he obviously was going to dine. At this point the tracks showed where the mallard had flapped his wings, dragging the marten with him. The snow was not disturbed for at least thirty feet, then a mark showed where the drake and the marten had returned to earth, only to take off again. There were three such intervals where the snow bore no tracks, each shorter than the other.

Finally the marten gained control of the situation and at this point the surface of the snow was torn up, littered with feathers and stained with blood. The tracks then showed where the victorious marten had dragged the mallard into a hole beneath a fir tree and there consumed it.

There could be no mistake about the mallard carrying the marten in flight, the rangers declared. Both wing marks and distinct marten tracks could be seen where their bodies had hit the snow.

While no human eye watched this mallard fight so dramatically for his life, there have been quite a few observers of a fascinating performance where the buffalo roam. Ranger Lee Coleman tells of a pair of ravens "going over the ground where buffalo had just been rolling in the dirt to rid themselves of winter coats" gathering buffalo wool tags in their beaks. "When each had a wad six or seven inches in diameter," he related, "they left for some undisclosed spot, for the raven is noted for the canny manner in which he hides his nest, and it is a safe assumption that nesting material was reason for his wool gathering."

Park Ranger George Ross has made some interesting observations on animal reaction to forest fire. Though it is something that visitors seldom if ever witness, this phase of animal behavior is nevertheless of great interest to them.

"While fighting fire on the west side of Lewis Lake," Ranger Ross reports, "I had an excellent opportunity to study wildlife behavior during the height of the blaze. Pine squirrels (chickaree) continued their pine cone eating and ceaseless search for food, seeming to realize that something was happening beyond their comprehension. They even frolicked over the fallen timber, playing hide and seek, and at times pretended to mate. Only when scorching heat, flame, and smoke approached too closely did they flee, giving forth a constant chatter of protest.

"It was also interesting to note that squirrels returned to burned areas, seeking pine cones which had been burned or parched, seeming to prefer these to green ones. Scattered piles of cone debris indicated that these little creatures had enjoyed a rare toasted delicacy.

"As the fire swept to the northeast toward Lewis Lake two deer, a bull moose and a black bear ran before it and were cornered in a small pocket near the lake's edge. The moose took to water while the deer, bear, and several squirrels seemed bewildered and dazed. Finally the deer also took to the lake's edge, with the squirrels close behind.

"As fire fighters closed in to try to save a narrow strip of trees, a black bear was seen through the smoke standing on his hind legs and trying to find some escape from the misery. With ears close to head he made a rush with lightning speed through the fire line, amidst the startled cries of the men. Once out of danger, he stopped, looked back and continued on through the timber."

Two tropical monkeys made a strange addition to the fauna of Yellowstone Park one summer. They escaped from a traveling zoo at Silver Gate, Montana, adjacent to the northeast corner of the park.

The monkeys ranged into the park a half a mile and were frequently seen scampering through the timber in the vicinity of Silver Gate. The animals were last seen in November after enjoying 104 days of freedom in the pine forests of Montana and Wyoming. Their hair had grown very long—undoubtedly as a protection from the cold weather. The two were always seen together.

"Invariably," said Ranger Frank P. Kowski, "when the monkeys were observed during the summer, the tourists were quite positive of what they had seen—but still quite certain that monkeys did not inhabit this part of the country. The look of relief on their faces when they were told that there were two escaped monkeys in this region betold the fact that often they were worried as to whether or not their powers of observation were rational."

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**Yellowstone bears always put on a good act. These grizzlies are at the Otter Creek feeding grounds**

# Forestry's Key Men

By FLOYD B. QUIGG

Rumor has it that there are people who believe the only thing needed to make a man practice sustained-yield forestry on his timberland is to convince him that he ought to do it as a service to his country—or, failing to convince, to force him to do it with the power of law. Most of these people, it seems, would rather not face the necessity of using legal force, but would prefer to appeal to the timber owner's civic consciousness and his patriotism.

Trouble is, most men have difficulty in bringing their civic consciousness or patriotism to a sharp enough focus, in forestry matters, to see how it justifies much effort or expense.

Cash considerations, however, are with a man yesterday, today and each new tomorrow. Just how important these considerations are may be recalled to mind by a few incidents that happened to me last summer within fifty miles of Washington.

It made no difference that he was out in the middle of the woods, with the makings of the world's best all-around building material growing in sizable sticks on his own land. He wanted to sell me some of that land, and he wanted to impress upon me how easily I could build a house for not much money, even now.

"Just get yourself some cinder blocks," he advised knowingly, "and you can build it yourself in your spare time. Use all the cinder blocks and glass you can—you know, plenty of big windows—and just as little lumber as you can. That's the way to keep the cost down, these days."

Why try so hard to use anything else but lumber? After all, it has had the reputation for years of being the lowest-cost building material on the market. But this real estate man, in his Maryland waterfront development fifty miles from Washington, had the answer. "Maybe it did have that reputation, but not any more," he declared.

"It's not just the cost of lumber itself," he explained, "although that would be enough to count it out of a lot of places. It's the cost of putting it into the building. I can't get a carpenter to work out here unless I start paying him his regular scale from the moment he crosses the District line into Maryland. So I never hire a carpenter if I can help it, and I use all the material I can that doesn't have to have a carpenter. I don't want the people who buy from me to get stuck by those fellows, either, so I advise everybody to build with cinder blocks."

But the trees all around? Ah yes, the trees—they were a sore spot with him, too. "The ones we have cut down, to build roads and for other clearing, are in the way," he complained. "There's not enough to start up a sawmill. So we should convert 'em into fuel — they'd make good fuel, and people in Washington would pay $20 or $30 a cord for it. But if we paid what we'd have to pay, to have them cut it into fuel, and then trucked the wood into Washington, and sold it, we'd lose money. Finally I gave the trees to a fellow who works for us. But he wouldn't take the trees as a gift unless I let him borrow our truck."

This gentleman is not the ideal prospect for some forester who wants a job growing more and bigger trees. Nor is he likely to be an enthusiastic contributor to any campaign for forest conservation.

Not only that, but to the extent that his construction ideas might prevail, there would be such a small demand for lumber that few others would consider forest land worth the cost of careful management, either. Why spend money to grow timber or care for it, if you can't be reasonably sure that you can later convert the results into enough extra money to make the effort worthwhile? Home construction money that goes into cinder blocks, as in this real estate man's line of reasoning, is a threat to forestry and to hundreds of thousands of jobs in the forest industries.

It is disquieting, at best, to see the extent to which this man's ideas *do* prevail. That was Maryland. This is written in a spot in Virginia which, though only forty miles from Washington, is twelve miles from the nearest railroad or major highway. Fifty years ago it was an area of prosperous, well-cultivated farms but today it is timber-covered for miles in every direction, save for a few clearings. On this property there is enough good sawtimber to build several substantial houses, with plenty to spare—and yet, halfway down the hill toward the creek is a cinder block house well along toward completion. In the twelve miles along the road from the railway I have counted one store and two houses of cinder block under construction—one of lumber. They are building of cinder blocks instead of lumber because they have been led (rightly or wrongly) to believe that this is the way to save money in home building.

It is something to cause deep concern in forest industry and conservation circles when so many are led to look upon cinder blocks (or any material other than lumber) as "the poor man's home building material," and the best value for the working man's money. It is especially important that men in the business of building — men who represent to consumers the skill and experience of the whole building industry—should, now as in the past, look to lumber as the key material.

This is not important to builders alone, nor to retail lumber dealers alone, nor to sawmills alone. It is important to all who want to see progress in forestry continue. Without a steady, reliable market for lumber there can be no steady, reliable progress in forestry. The lumber market is the financial justification for the practice of forestry.

Furthermore, it is not just the top-quality or "fancy pants" grades of lumber that must find the ready market. That is vital, of course, but it would not be enough. There must be a volume market (meaning *large* volume), and this can come only in the buying and selling of "ordinary" lumber, the kind produced at thousands of mills. The market that can absorb that volume of lumber is to be found in just one direction—the building industry. If thousands of builders buy billions of feet of lumber, there is cash justification for good forestry. If the builders don't buy lumber, there will be neither the widespread inclination to practice forestry, nor the money to pay for it.

Enthusiastic foresters often insist that good forest management does not cost; it pays. This could be true, and probably is true most of the places where it is tried, but there is nothing automatic about it. Forest management that includes conservation of the stand does *not* pay unless the mar-

(*Turn to page* 377)

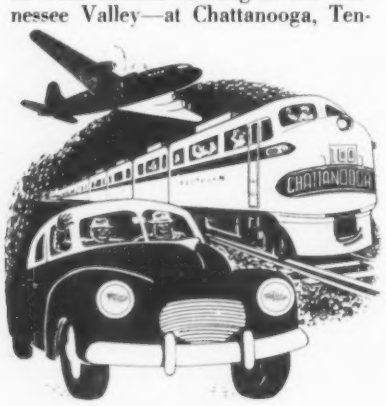
Chattanoogans, Incorporated

**View of Tennessee River from historic Lookout Mountain at Chattanooga**

# ON TO CHATTANOOGA!

**Tennessee Valley to be scene of first Annual Meeting of The American Forestry Association since 1941. Program, featuring cooperative land management, highlighted by nationally known speakers and interesting field trips**

CONVENING for the first time since 1941, The American Forestry Association will hold its 67th Annual Meeting in the Tennessee Valley—at Chattanooga, Tennessee, October 8, 9, 10 and 11, with headquarters at the Patten Hotel. Cooperative land management by federal, state and local governments and private enterprise, one of the major objectives of the Association's Program for American Forestry, will be the theme of the conference.



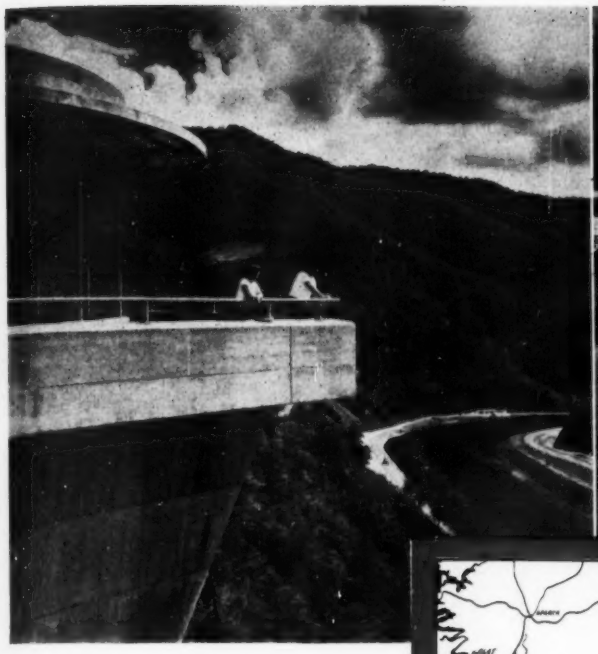

Among the nationally-prominent speakers on the program are Representative Clifford R. Hope of Kansas, author of the much-discussed Hope bill of the 80th Congress (H. R. 6054), and Gordon Clapp, TVA chairman. Representative Hope will address the conference on October 8 on the subject of "Coordinated Conservation." Chairman Clapp, principal speaker at the American Forest Banquet on the evening of October 9, will report on conservation progress and plans for the Tennessee Valley area.

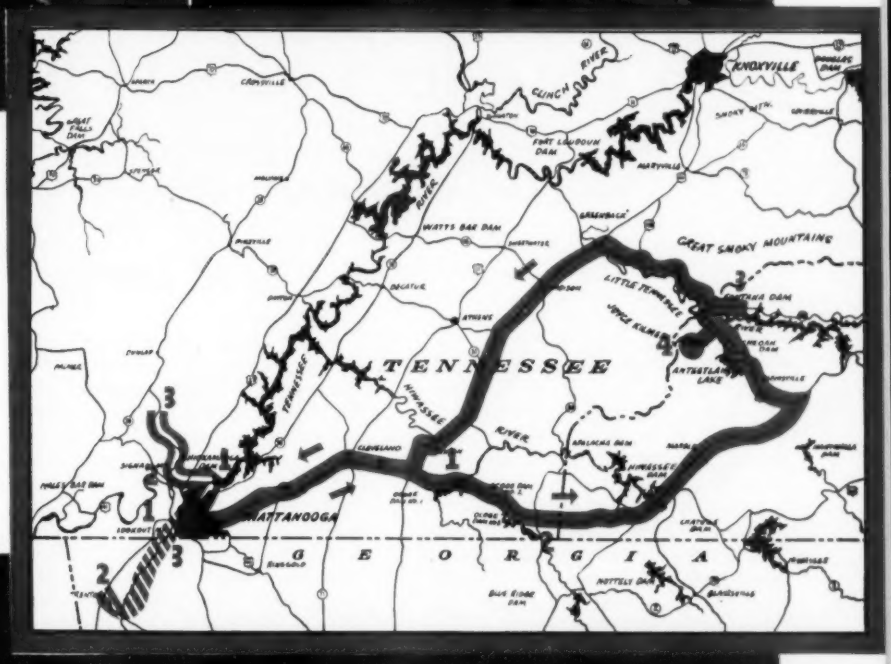
Led by Lloyd Partain of the Curtis Publishing Company, Philadelphia, a panel discussion on the effectiveness of present efforts to bring small woodlands under management will attract project leaders from many sections of the country.

Of equal interest to conservationists are field trips planned to inspect TVA projects, climaxing with an overnight visit to the great Fontana Dam in North Carolina, and outstanding examples of public and private forestry in the Tennessee Valley area.

Convening on October 8, with W. S. Rosecrans of Los Angeles, president of The American Forestry Asso-

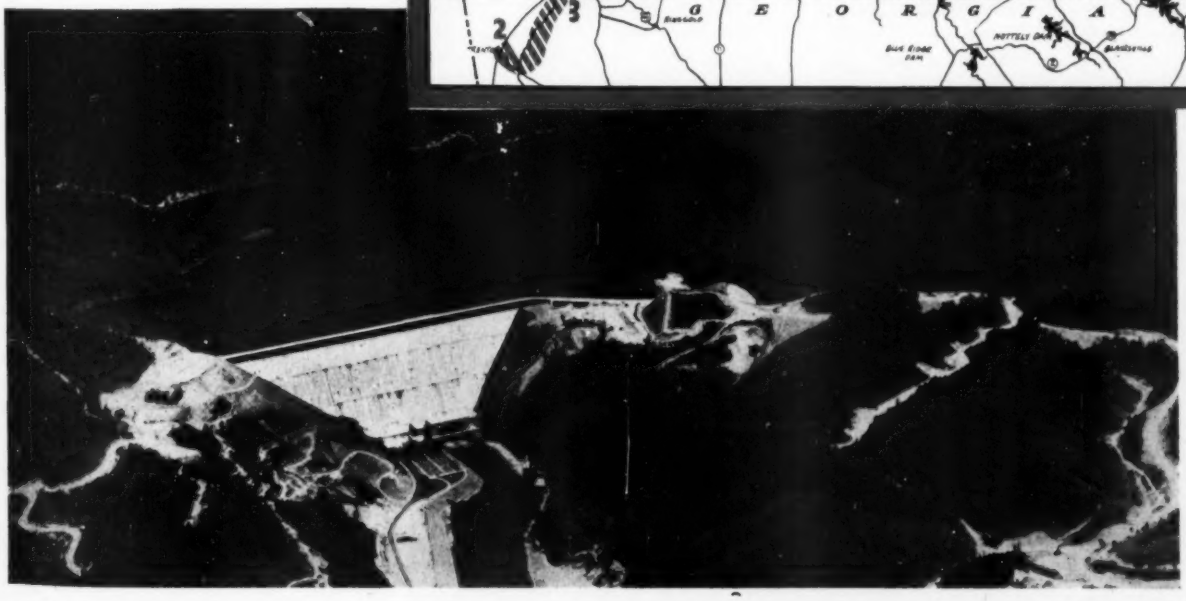
(*Turn to page* 383)






**AFA members at Annual Meeting will visit overlook of Fontana Dam (above) and Fontana Village (upper right). Routes and stops on field trips are shown in red on map at right. Cross-hatched red lines indicate trip for October 8, open red lines October 9, and solid red line October 10-11. Below, aerial view of Fontana Dam, one of 26 TVA dams, and part of the 10,000-acre lake.**

TVA Photos



Pitching camp at Spruce Top—location of the author's forestry school near Ithaca, New York

The class gets down to business as boys hear description of workings of a forester's compass

# A Forester's School in the Woods

**Spruce Top is no summer camp. 4-H boys who arrive there next month can expect a solid diet of forestry for a week. And the final exams are tough**

By J. A. COPE

A BROAD program of training 4-H boys and girls in farm forestry has been in operation in New York State for over twenty years. Projects in tree planting, tree identification, woodlot improvement and timber estimating have been set up to give farm boys and girls practical lessons in woodland use and culture. Each project has been the subject of a special bulletin replete with illustrations to help the 4-H'ers get a better understanding of the program.

In the two decades around 24,000 enrollments in the forestry projects have been recorded. But that does not mean anywhere that many completions. It takes more than a bulletin and a brief contact with the specialist once or twice a year to make farm boys and girls really woods minded.

As every educator knows, there is no substitute for personal contact between leader and pupil in developing interest and enthusiasm for a subject. In Sweden when it comes to teaching forestry to farm boys in the vocational high schools, an attempt is not made to sandwich it in between courses in manual training and agriculture during the school year. Instead a whole class is transported to an operating forest. There, under the guidance and instruction of competent foresters, the class literally has a twenty-four-hour diet of forestry for a solid week. Such a course provides the boys with the skills necessary to practice the art of forestry on their home farms.

So when my colleague, F. E. Winch, and I studied the disparity between enrollments and completions in the forestry projects year after year, or considered the small number of 4-H'ers who carried on past the first year project in tree planting, it seemed another approach was needed to supplement our four-year program. So we talked and dreamed about a "school in the woods" for 4-H foresters. In 1947 it became an actuality, thanks to the backing and support of five large pulp companies operating in New York State—Finch Pruyn, International, Raquette River, St. Regis, and West Virginia.

**The boys get plenty of field work at Spruce Top. This pair is engaged in releasing crowded white ash from over-topping popple**

**Sawfly damage to a red pine is examined by students in course covering control of forest pests**

**The favorite topic of conversation of the boys at chow? Yes, you guessed it — it's forestry**

If it were to be a real school, not just a recreation camp with forestry talks thrown in for seasoning, the choice of time and place was of first consideration. If held in the summer, boys would think of it as vacation and expect emphasis on recreation. If held during the school year and a stiff schedule of instruction and practice provided, it would be accepted by the boys without question, we hoped, and approved by school authorities as a substitute for classroom work.

September is always a grand month in central New York—the heat of summer is past, yet it is not cool enough to make tents uncomfortable. Then there is an abundance of fruit and vegetables available which eases the culinary problems.

The place required equal thought and scrutiny. A "school in the woods" had to be just that, and not just plain woods either. For practice and observation there must be all kinds and conditions within easy walking distance of the camp. At Spruce Top, the author's Christmas tree farm near Ithaca, these conditions seemed to be well met and in addition wood, water and shelter were adequate.

Since this was a first year venture, the number of enrollees was limited to twelve. And requirements were high. To attend, the boys had to have completed two years' work in forestry and be enrolled for the third year.

Sunday night of the second week in September the boys rolled in. On the following Saturday, after a stiff three-hour examination, each of the boys was awarded a Certificate of Completion. In the intervening five days, six hours of instruction, training and practice each day were given by two foresters. The boys literally ate it up—and asked for more.

The thirty hours of instruction and practice included: sharpening and care of tools; recognition of crop and weed trees of New York (most all of them represented at Spruce Top); recognition and control of forest pests; inventorying a farm woods; marking and cutting in an even-aged woods; marking and cutting in an uneven-aged woods; and culture in plantations and Christmas trees.

Of particular appeal to the boys was an instruction period devoted to body measurements and their application to forestry. Knuckles for the inch, finger span for the foot, arm length for the yard, and pacing for the rod and chain. By eye-squinting across the bridge of the nose, the boys learned to throw a right angle. This skill combined with pacing meant an acre plot could be laid out in the woods for inventory purposes without precision instruments and still be surprisingly accurate.

It was anticipated that pitching horseshoes would be the favorite after-supper sport, consequently, three sets of "shoes" were provided and courts laid out. But croquet stole the show and an active tournament was played off in the camp's spruce-bordered recreation area.

Each evening found the boys gathered around the campfire on comfortable benches they had fixed up in their spare time (if any). There were songs and stunts and Paul Bunyan yarns, and then, as a climax to each evening, instructive and inspirational talks on forestry, on lumber, on pulpwood were brought to them by leaders in the profession and in industry.

Seven of the boys were either leaders or assistant leaders in their local 4-H clubs, so they were in a position to carry the knowledge and skills gained at the school back to their clubs. To handle their own woods well and to teach others to do the same—these two objectives we feel amply justify time, expense and effort on the part of extension foresters.

**The fact that almost every crop and weed tree found in New York is represented on Spruce Top makes it an ideal location for a forestry school**

# ADAM

**Fame will probably never come to Adam. Unfortunately, it fell his lot to be born in a poultry yard instead of a handsome state park. But he's some tree just the same**

By RUTH E. RILEY

Adam may be seen from my kitchen window, standing practically dishabille in the poultry yard. I breathe a prayer that he will again don his garment of leaves when the proper time arrives.

My father named the big elm Adam because he believed God made him many years ago. He was my father's pride—and now Adam is all the more dear to me because of that.

Adam measures 13 feet in circumference six feet above the ground. Lower down, where his great roots branch out before burrowing into the earth, he is more than 20 feet around.

In an Indiana state park I once saw an elm which bore a placard reading, "This is the largest elm in the park. Its circumference is 13 feet." People gathered round the tree, making remarks which no doubt caused it to stretch inches taller.

No one says much about Adam except that he makes a fine shade or is a nice big tree. Environment does count. Had he grown up in a future state park instead of our chicken lot he might have become famous.

When our son was small he proposed that whenever Adam died and went to tree heaven, we should saw his trunk asunder and count the rings.

That idea was abandoned the first time he climbed up the old fellow and discovered Adam was hollow to his very toes.

Adam wears no wreath of birds' nests in his hair. Birds choose a safer abode. Adam is not heavily leafed; his comfortably adjacent branches tempt small boys to climb up; and Jerry, the jay, spends much time with him, screaming at all and sundry, including the fat hens below. Gunner, the woodpecker, has a home in one hollow limb. Oswald, the owl, lived in another hollow for several years. Now and then a hen makes a nest in a root pocket. Adam seems to appreciate this. He leans protectingly toward the poultry house.

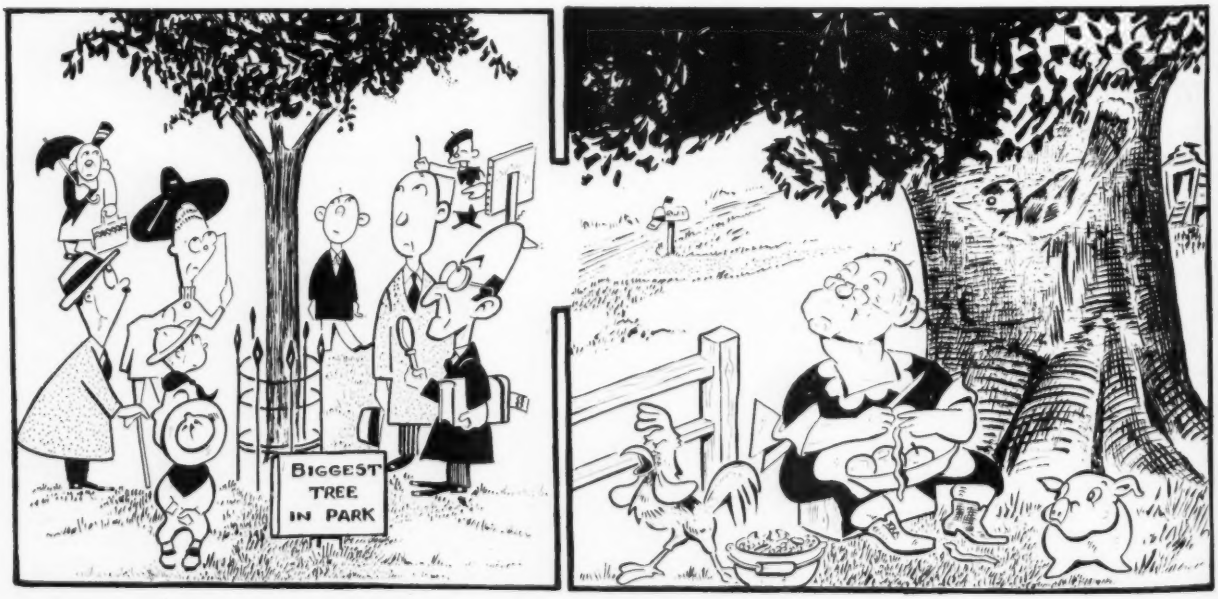
Gunner is devoted to Adam, going carefully over him for insects, and training his children to do the same. Seeing them all at work, I wonder why Adam never shivers and shakes them off.

Gunner is named for the men who run riveting machines, someone having told us "gunner" was their trade name. One of his forefathers spoiled my morning naps by arriving early to beat a rat-ta-too on the metal roof comb of the house.

I'm middle-aged, and here is Gunner, seventh son of a seventh son, carrying on family tradition. Let me stretch out for 40 winks on a summer afternoon, and nine times out of ten there's a loud, "Br-r-rip!" on the roof comb, just as I am on the verge of dropping off.

Yet I find myself a bit annoyed if he fails to appear.

I once tried to stop Gunner at his favorite sport. My husband was ill, and had just dropped into a much needed sleep when, "Br-r-rip!" went Gunner on the roof comb. With no intention of hitting him, I threw a



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# FACTS" ...NOT BRAGS"

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rock. It sailed past him through a window pane into the hallway just outside my husband's bedroom.

Gunner was astonished and, for a moment, sat there nonplused. I could picture him telling his wife, "My dear! . . . and after all these years the family has drilled on that roof comb!" As for my husband—well, his remarks were those of a man painfully surprised.

Jerry, the jay, does not profit by the example Gunner sets in bringing up his family to be of benefit to the community. Jerry builds his nest in the boxelder, standing in view of Adam, but over the fence inside our yard, where it is bounded on one side by a bird bath, on the other by a mulberry tree. With provisions of food and water so near, Jerry has ample time off from domestic duties to attend to his hobby of annoying others.

When Felix, the big, black housecat, stretches out for a nap in the sun, Jerry lights on a nearby fence post and screams words which would shame an army sergeant. He screams at visitors to the bird bath, or anyone picking a mulberry. He is so disagreeable that I wonder his wife doesn't sue him for incompatibility.

Squirrels come from the woodland in summer to get drinking water from the chicken troughs. Jerry had an exciting time with one of them.

I had come to sit in Adam's shade, which may have frightened the young squirrel into running up Adam. Anyway, I was scarcely seated when Jerry spied him there and set up his usual commotion.

The squirrel would scamper down Adam—then quickly circle his trunk and escape Jerry—for a moment. Then the screaming would start again and the squirrel would run up the trunk. This seemed to annoy the jay, ruffle his feathers so to speak.

I couldn't see exactly what happened, but suddenly Jerry gave a loud scream and down came a furry streak to hit the earth with a sickening thud. For a matter of seconds the poor squirrel sat there, dazed. But Jerry was soon screaming in his ear again, and after a wobbly start, the squirrel scaled a fence post and sped swiftly toward his native woodland.

Jerry settled atop the fence post and started preening. A soft breeze stirred Adam's leaves as he chuckled.

Oswald left his home in Adam through a misunderstanding. The little brown owl lived in a hollow branch for several years before a windstorm left a high branch hanging by a bit of bark. Our son climbed Adam, attached a rope to the dangling limb and, returning to the ground, gave a mighty pull. Down came the limb, breaking into many pieces as it struck the earth.

In the midst of the wreckage sat Oswald, his round eyes blinking, snapping his beak in indignation. We shouted with laughter. Oswald spread his wings and with such dignity as he could muster, flew to the nearby maple. That night he departed, never to return. We had no way of asking his forgiveness.

Dire Lamentations, the pet pig, so named for mealtime singing, and Inflation, the calf, named for her appearance after downing a feeding of milk, lie in Adam's shade on hot afternoons. Round them gather Waddler, the white drake, and Horsefeathers, the mallard, with their harems.

Sir Walter, the bantam, struts beneath Adam followed by his wives, Fuss and Feathers. The speculative glance he casts at Adam's lowest branch, some 15 feet above the ground, indicates he could fly up there if he wished. Perhaps he thinks the boys get up that way, not suspecting the lengths of wood nailed to Adam's trunk to form a ladder. I predict that if he ever flew up on that limb he'd burst into atoms in one vainglorious crow.

Afternoons, Adam's shade covers the barnyard so that the horses, Topsy and Turvy, come to stand there. I believe Adam likes to synthetically touch the barn. Perhaps the lumber in the barn whispers of the great forests where it grew. My husband says Adam has a fatherly feeling toward the barn. Once he saved it from burning.

Adam has a great scar running from a high branch down his trunk and over to the chain swing, which he believes was made by lightning. I contend that while Adam may never have talked intimately with rain, he clearly got too familiar with a passing lady cloud and got a nice slap of lightning for his pains.

Not so, says my husband, with truly masculine attitude. Adam, he contends, saw a young whippersnapper of a bolt of lightning coming toward our barn with mischievous intent and, with great presence of mind, grasped it in a mighty branch and "jerked a knot in its tail."

The great tree has a place in my earliest memories. For my seventh birthday my father attached to Adam's lowest branch a chain the village blacksmith had welded together. I stood in wonder as father knotted the ends over that branch, and notched a small board to form a seat. Adam has grown wood and bark over those knots until they are hidden from view. I like to think he took this firm grip on the chains so that they might never let a child fall.

My first sweetheart swung me in that swing. I came there to dream day dreams, to cry when my heart was broken, or to cool my fiery temper. Adam never told my secrets.

Repair work, laundry and carpentry are but a few of the tasks we bring to Adam's shade in summer. And we do our visiting there. If, as we like to think, he once listened to Indian pow-wows, or witnessed scenes of bloodshed and strife when America was young, he must find our doings and conversations very dull.

But as we grow older, we like a quieter life, and the companionship of those who love us. Mayhap he is content.

He goes about the business God gave him, putting out a new twig here, a few more leaves there, showing no fear of the future, no regret for the past. Storms bend and shake him, lightning has scarred him, ice has encrusted him from tip to tip.

But when spring comes he has courage to start anew. May I do as well.

## TREES

Marvin Luther Hill

The love of trees is in my blood: the tall
Slim popular, and the sweetgum tree by cool
And singing streams; the chestnut tree, the small
Dogwood, with ivory petals beautiful;
The fir tree, with its memories of Yule.
The larch, the honey-blossomed lime, and all
Thick groves of oak, where chiseled acorns fall,
And lonely trees beside some desert pool.
Trees are my comrades: under them I keep
Vigil with clouds, and many a winking star
In the deep azure, where dream-castles are;
They bring me quiet thoughts and peaceful sleep:
They walk with me down many a winding lane,
And talk, with leafy murmurings, of rain.

# CHATTANOOGA and TENNESSEE

*Welcome*

## AMERICAN FORESTRY ASSOCIATION

## Members

Located in the heart of the great Tennessee Valley, with the picturesque, forest-clad Cumberland Mountains forming a massive back-drop for the mighty Tennessee River and Lake Chickamauga, the City of Chattanooga extends you a most cordial invitation to attend the first post-war meeting of your Association with headquarters at the Patten Hotel, October 8-9-10-11.

We shall do everything within our power to make your visit enjoyable, constructive, and worthwhile throughout, cooperating wholeheartedly with Mr. Z. Cartter Patten, General Chairman of Arrangements.

THE CITY OF CHATTANOOGA
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The program will include delightful trips to points of great interest to those concerned with proper use and conservation of our forests, as well as the utilization of other great natural resources. Don't miss this memorable Tennessee Valley trip!

To assure accommodations, send your request for hotel reservations early to

FRED E. HORNADAY,
*Secretary,*
*The American Forestry Association,*
919 17TH STREET, N. W.
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# CONSERVATION IN CONGRESS

The eightieth Congress, which adjourned in the early morning hours of June 20, subject to recall, passed a number of bills affecting the progress of conservation and left many more untouched.

Despite early beliefs to the contrary, appropriations for the major conservation agencies were essentially equal to or above the President's budget estimates, as will be seen in the table on this page.

The long-range agricultural program of Congressman Hope of Kansas, as set forth in H.R. 6054, failed to be reported from the House Committee on Agriculture of which he is chairman, although hearings were held. It is expected to reappear in the early order of business in the next session. Meanwhile, more or less as a stop-gap measure, Congress passed H.R. 6248 which continues government price supports until June 30, 1950. Into this bill went some of the language of S. 2318, the Aiken bill, for a long-range agricultural program, to become effective after June 30, 1950. It is expected that consideration of the Hope bill or a similar measure will considerably amend this action before 1950.

Congressman Russell's bill, H.R. 6320, to appropriate the unobligated balance of the Pittman-Robertson (Federal Aid to Wildlife Restoration) funds, now around $13,467,486, died in the Appropriations Committee. The Nevada congressman has indicated that he will reintroduce the bill next session.

Another bill of major importance, H.R. 6767, introduced by Representative LeFevre of New York, failed to receive action on the floor, although it was reported favorably by the House Committee on Public Lands. This bill would permit the states to participate in the revenue from national parks and thus remove some of the local opposition to national park establishment and extension.

All bills to amend the Clarke-McNary Act for state-federal cooperation in forestry failed to pass. Object of these bills was to increase authorizations for fire control and tree planting.

A stream pollution law was enacted, the Barkley-Taft bill, S. 418, which provides for a five-year study

(*Turn to page* 372)

**FEDERAL CONSERVATION APPROPRIATIONS**
**For Fiscal Year Ending June 30, 1949**

| | *1948 Appropriation* | *1949 Budget Estimate* | *1949 Appropriation* |
|---|---|---|---|
| **DEPARTMENT OF AGRICULTURE** | | | |
| Forest Service: (Total) | $59,020,041 | $56,334,500 | $56,697,175 |
| General Administration | 650,000 | 650,000 | 650,000 |
| National Forests (Total) | 24,014,891 | 25,064,000 | 25,204,175 |
| General Management | 6,832,169 | 6,832,169 | 6,832,169 |
| Maintenance of Impr'v'ments | 2,575,276 | 2,675,276 | 2,675,276 |
| Fire Prevention and Control[1] | 7,154,877 | 7,354,877 | 7,318,377 |
| Pest Control | 100,716 | (101,000)[2] | (101,000) |
| Timber Sales | 3,315,166 | 3,914,991 | 3,865,166 |
| Grazing Administration | 794,428 | 1,044,428 | 956,928 |
| Recreation Use | 541,640 | 541,640 | 578,140 |
| Land-Use Management | 600,000 | 600,000 | 600,000 |
| Water-Use Management | 44,711 | 44,711 | 44,711 |
| Improvement Construction | 186,000 | 186,000 | 213,500 |
| Planting and Planting Care | 1,869,908 | 1,869,908 | 2,119,908 |
| Fighting Forest Fires | 100,000[3] | 100,000 | 100,000 |
| Land Acquisition | 892,000 | 642,000 | 642,000 |
| Cooperation with States (Total) | 9,809,500 | 9,809,500 | 9,809,500 |
| Fire Control | 9,000,000 | 9,000,000 | 9,000,000 |
| Tree Planting, Farm Forestry, etc. | 809,500 | 809,500 | 809,500 |
| Research (Total) | 4,547,000 | 4,637,000 | 4,859,500 |
| Forest and Range | 2,475,000 | 2,565,000 | 2,787,500 |
| Forest Products | 1,250,000 | 1,250,000 | 1,250,000 |
| Resource Investigations | 822,000 | 822,000 | 822,000 |
| Roads and Trails | 16,300,000 | 15,050,000 | 15,050,000 |
| Naval Stores Cons. Program | 732,000 | 382,000 | 382,000 |
| White Pine Blister Rust Control | 1,974,650 | (1,974,650)[2] | (1,974,650) |
| *Forestry in Other Agri. Bureaus* | | | |
| Entomology and Plant Quarantine: | | | |
| Gypsy-Brown-tail Moth Insp. & Control | 603,600 | (603,600)[2] | (603,600) |
| Dutch Elm Disease Control | 101,800 | 101,800[2] | 51,800 |
| Forest Insect Invest. & Con. | 480,800 | 480,800[4] | 480,800 |
| White Pine Blister Rust Con. | 1,193,350 | (1,193,350)[2] | (1,193,350) |
| Soil Conservation Serv. (Total) | 39,048,000 | 39,048,000 | 45,048,000 |
| Extension Service: | | | |
| Private Forestry Cooperation[5] | (106,343) | (106,343) | (106,343) |
| Bureau of Plant Industry: | | | |
| Forest Disease Investigations | 379,280 | 380,480 | 380,480 |
| National Arboretum | 436,900 | 413,900 | 413,900 |
| Bureau of Agricultural and Industrial Chemistry: | | | |
| Naval Stores Investigations | 152,550 | 152,550 | 152,550 |
| To various agencies under the general title "Control of Forest Pests" | | 4,590,400 | 4,540,000 |
| **DEPARTMENT OF THE INTERIOR**[6] | | | |
| Bureau of Land Management | | | |
| General Adm. of Range & Timber Resources | 60,605 | 69,777 | 69,777 |
| Mgt., Protection & Disposal of Public Lands | 2,384,640 | 3,387,565 | 3,000,000 |
| Mgt. & Protection, O & C Lands | 469,300 | 500,000 | 500,000 |
| Leasing of Grazing Lands | 7,500 | 6,000 | 6,000 |
| Fire Fighting | 40,000 | 150,000 | 50,000 |
| Range Improvements | 253,000 | 350,000 | 350,000 |
| Bureau of Indian Affairs | | | |
| Management, Forest and Range | 801,500 | 1,100,000 | 900,000 |
| Fire Fighting | 12,000 | 12,000 | 12,000 |
| Tribal Funds | 25,000 | 25,000 | 25,000 |
| To Various Bureaus from Secretary's Funds | | | |
| Soil and Moisture Conservation | 1,900,000 | 2,500,000 | 2,800,000 |
| White Pine Blister Rust Control | 582,000 | (582,000)[2] | (582,000) |
| National Park Service | 10,428,055 | 16,984,150 | 15,125,304 |
| Fish and Wildlife Service | | | |
| Cons. of Fish and Wildlife | 6,532,810 | 11,587,200 | 9,928,509 |
| Fed. Aid, Wildlife Restoration | 9,031,273 | 7,000,000 | 10,000,000 |
| Migratory Bird Conservation | 5,361,652 | 2,000,000 | 1,750,000 |
| **TENNESSEE VALLEY AUTHORITY** | | | |
| Resource Development Activities | 5,490,000 | 5,482,000 | 4,265,000 |

[1]Includes $10,000 for printing, both years.
[2]Included in Agricultural Budget under title "Control of Forest Pests."
[3]Supplemented by a deficiency appropriation of $4,932,000.
[4]Includes $10,000 from title "Control of Forest Pests."
[5]Included in Forest Service in item for cooperative tree planting, farm forestry, etc.
[6]Does not include $25,000 for forest insect control on public lands included in U.S.D.A. Appropriation.

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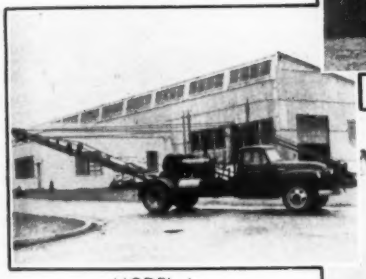
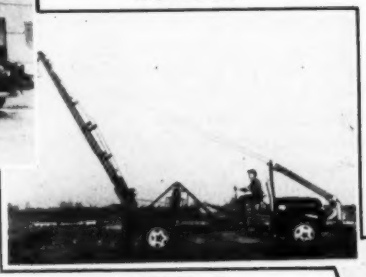
MODEL LR



MODEL L



MODEL JR

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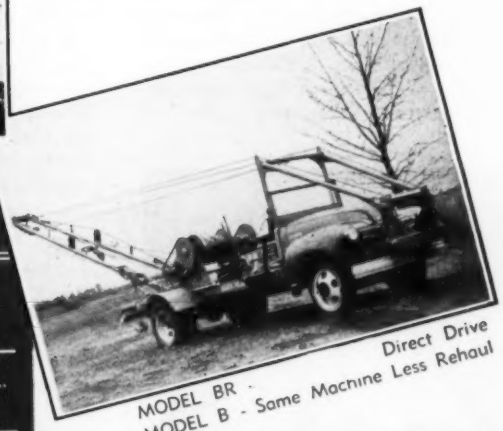
**Satisfied users everywhere praise LOGGERS DREAM'S sturdy, dependable woods-efficiency. Many call it the best piece of logging equipment they have ever used. Its stamina and endurance have been proven under almost all logging conditions, and LOGGERS DREAM'S power, speed and versatility insure easier logging . . . which means greater profits for you.**



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| CABLE SIZE | 1/2" | 5/8" | 5/8" | 5/8" | 5/8" | 5/8"-3/4" |
| CABLE SPEED (MAX) | 600 FPM | 575 FPM | 575 FPM | 512 FPM | 512 FPM | 400 FPM |
| WORKING LOAD PULL (Lbs.) | 12,000 | 15,000 | 15,000 | 18,000 | 18,000 | 22,000 |
| POWER SUPPLY | Truck Motor | Truck Motor | Truck Motor | Ford 100 H. P. | Ford 100 H. P. | Ford 100 H. P. |
| MACHINE WEIGHT Not including truck mount | 4800 lbs. | 6000 lbs. | 8000 lbs. | 7000 lbs. | 9000 lbs. | 10,500 lbs. |

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# NEWS IN REVIEW

W. S. ROSECRANS of Los Angeles, California, president of The American Forestry Association, and S. T. Dana of Ann Arbor, Michigan, dean of the School of Forestry and Conservation, University of Michigan, a director of The American Forestry Association, have been appointed to serve another term on the Natural Resources Committee of the United States Chamber of Commerce.

• • • •

New State foresters have been named for Idaho and South Dakota. Idaho appointed Roger L. Guernsey, graduate of the School of Forestry at the University of Idaho, and South Dakota named Harry R. Woodward, a forestry graduate of Utah Agricultural College. Both new officials are twenty-eight years old. Mr. Guernsey was formerly assistant state forester of Idaho, and Mr. Woodward assistant state forester of South Dakota. Both men served in World War II—Mr. Guernsey as an infantry captain, Mr. Woodward as a captain of antiaircraft artillery.

• • • •

Last year the pulp and paper industry in the South was responsible for having one-third of the total number of trees cut for pulpwood replaced in pine plantations, according to the Southern Pulpwood Conservation Association. Twenty million trees were purchased from state nurseries—six million were raised in nurseries operated by the industry. These twenty-six million trees replanted 26,000 acres of poorly stocked forest and abandoned farm land. The pulpwood cut in the South last year approximated eight million cords—or about eighty million trees.

• • • •

Enactment of legislation, now passed and awaiting a vote of the electorate in November, will result in considerable changes in the composition of the State Forestry Commission of Louisiana, John B. Ferran, executive secretary of the Louisiana Forestry Association, reports. Among the measures is a bill which makes the commissioner of Game and Wildlife also chairman of the Louisiana Forestry Commission, and increases from seven to twelve the number of members on the commission. Under present statutes the commission elects its own chairman and its members are appointed by the governor from various branches of the forest industries.

Another bill would dedicate the timber severance tax to the Forestry Commission for reforestation purposes. At present all severance taxes collected go into the state's general fund. Substantial increases in all timber severance taxes were voted by the current session of the state legislature. The rate on cypress timber was raised from twenty-six cents a thousand board feet to a dollar—and on pine from twelve to fifty cents. Levies on other species were also substantially increased.

• • • •

The successful continuation of the battle to replant Scotland's forests, cut down ruthlessly in two world wars, was reported by Scottish Director H. C. Beresford Pierce this month. In the past year—the twenty-sixth year of replanting—Scotland planted twenty-four million young trees on 16,000 acres, the all-time record for replanting in any one year. As the land becomes available and is prepared, even this large program of replanting will be expanded and maintained. Forestry will, in the future, be maintained as a basic industry, and already there are plans for a woodpulp mill to serve the paper making industry of Scotland.

D. A. Anderson, silvicultural research chief, has been named acting director of the Texas Forest Service. He succeeds S. L. Frost who resigned June 30 to become executive director of The American Forestry Association. Mr. Anderson has been associated with the Texas Forest Service for twelve years.

• • • •

Approximately 350 lots of public domain near Pensacola, Florida, are now available for homesites and cabin sites for World War II veterans, according to Secretary of the Interior J. A. Krug. The lots, ranging up to five acres in size, may be obtained under a five-year lease with an option to buy after one year's tenancy under the lease. The general public may file applications for the land beginning October 22, Mr. Krug said. Application should be submitted to the Bureau of Land Management, Department of the Interior, Washington, D. C.

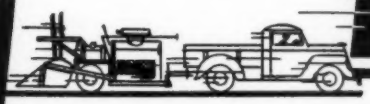
• • • •

A significant change in the timber industry of Burma took place in June when the Burmese government took over the extraction, transportation, sawmilling and exportation of one-third of the country's teak, chiefly from the reserved forests of central Burma. It was announced that the government intended to work these areas "by a state organization on a commercial basis in much the same way as the industrialists have worked them in the past." The government also stated it intended to "employ elephant contractors with their elephant herds on hire as formerly."

**New state forester of South Dakota—Harry R. Woodward**

**Roger L. Guernsey—named state forester of Idaho**

# WHEN YOU NEED FIRE LANES FAST



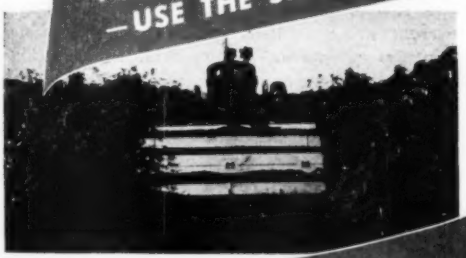
## BUILD THEM WITH THE SEAMAN

One of the prime features of the SEAMAN in fire line construction is its great portability. Towed by a light pick-up truck, it's at the scene of a forest fire at highway speeds. Transferred at the scene to a towing tractor the SEAMAN immediately goes to work, — ripping, milling and chopping through heavy brush, — even clearing saplings up to 1½ to 2 inches in diameter, — and leaving behind it an open path 6 or 7 feet wide.

Forestry officials estimate that the SEAMAN easily does the work of ten men, — a vital performance when minutes and man-power are at a premium.

The SEAMAN is hailed by experienced foresters as the most important single unit in forest fire control. Investigate it now as an ally to your forces.

## AND IN LAND CLEARING FOR FOREST NURSERIES, —USE THE SEAMAN



Old, buried tree and brush roots are a problem when land has been cleared for forest nurseries, for they often foul the new stock, — inhibiting healthy growth and development. Here the SEAMAN becomes a highly efficient unit for following behind a heavy disc to cut the heavier tree roots into segments. The SEAMAN digs out the root pieces and with the hood open, throws them to the surface for easy burning or removal.

## FOR A SUPERIOR SEED-BED IN NURSERY WORK

The SEAMAN, — a pioneer in rotary tillage, produces a seed-bed so highly pulverized that similar soil treatment could be obtained only by hours of laborious hand-raking. Usually in one operation the SEAMAN does the combined work of plow, disc and harrow. At the same time, fertilizer can be milled and mixed-in uniformly throughout the tillage depth. For better seed germination and for hardier nursery stock, — prepare your seed-beds with the SEAMAN.

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The first use for the SEAMAN by the Soil Conservation Department was for the eradicating of white grubs in nurseries. The rotating tines of the SEAMAN dig and throw the grubs with such velocity against the inside of the hood, that usually 70% decimation occurs in one trip. A second pass often results in a 90% mortality.

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## The Dawn Redwoods

(*From page* 353)

graphs were available, nor was it possible to find out much about it. In order to establish the accuracy of this report, Ralph W. Chaney, paleobotanist (one who studies prehistoric plants) of the University of California and the Carnegie Institution of Washington and Dr. Milton Silverman, of the San Francisco *Chronicle*, early this year flew to Chungking. From this former capital of China, the group proceeded down the Yangtze River on a riverboat to Wan Hsien. Here they secured baggage porters and sedan chairs and set out on a journey southward more than a hundred miles into the provinces of Szechwan and Hupeh.

Traveling over a path largely made up of a rock slab stairway, they covered from twenty to thirty miles a day in rain and fog—a path which crossed four mountain ranges of which two were over 5,000 feet high. This is a region seldom visited by foreigners—in fact, the remote village at the end of the journey had never before been entered by a foreign visitor. The reported presence of hundreds of bandits made necessary extreme precautions to prevent theft of cameras and other essential equipment; and armed guard was necessary during most of the journey.

"Just outside the village of Mo-Tao-Chi, seventy miles south of Wan Hsien," says Dr. Chaney, "we came upon the first trees of *metasequoia*. The largest is nearly 100 feet tall and sixty-eight inches in diameter above the buttress (almost eleven feet in diameter where the buttress flares out at ground level). It has large branches which extend upward instead of turning downward as in the living redwood; another difference is that *metasequoia* sheds its leaves in winter, so it was bare at the time of our visit; its bark has a reddish tone suggestive of the redwood, but is thinner than that of the American tree. These and other differences readily distinguish *metasequoia* from *sequoia*, but a relationship between the two trees is at once apparent from the similarity of their cones, and their wood is also much the same. Preliminary examination indicates that *metasequoia* may represent the ancestor of the American *sequoia*.

"Continuing southward some thirty-five miles, we came into a valley occupied by over a hundred trees of *metasequoia*," Dr. Chaney continues. "While none of these are as large as the giant tree at Mo-Tao-Chi, they are growing on slopes which have not been fully logged off, as is the case farther north. Here we were able to study the dawn-redwood under essentially native conditions."

How much longer will *metasequoia* continue to exist in this central Asia sanctuary? Dr. Chaney says the answer to that question is difficult for in this land of fuel and timber shortages, these great trees of the past are rapidly being cut down by Chinese farmers. But plans are already being made to preserve the *metasequoia* of the Valley of the Tiger from destruction.

Dr. Chaney and Dr. Silverman brought back specimens of the wood, bark, leaves and cones of these remarkable trees for future study. They also returned with four dawn-redwood seedlings, ranging from six to fifteen inches in height, which were planted in April of this year at Berkeley, California. They will be guarded in greenhouses and tended and nurtured and deluged with vitamins. They are probably the most precious of botanical specimens in America today.

## Conservation in Congress

(*From page* 368)

of problems and methods of attacking them. Not an immediate action bill, it is disappointing to many conservationists.

Among other bills which failed to be enacted into law were the Cordon bills, S. 580 and S. 582, to authorize exchange of Oregon and California grant lands between the Department of the Interior and the U. S. Forest Service, and to revise the method of determining payment to states in lieu of taxes on national forest lands. Both these bills passed the Senate and much good "educational" work was done in the process.

Authorization for a re-study of the Olympic Park controversy this summer was not received, but a subcommittee of the Senate Committee on Interior and Insular Affairs will hold public hearings on the proposed sustained-yield units for the Oregon and California grant lands. Hearings will be held at Eugene, Oregon, in September.

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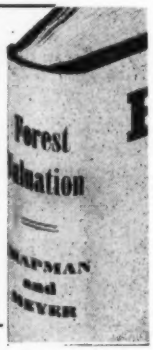


## 1. Forest Valuation

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## 2. Forest Influences

*By* **JOSEPH KITTREDGE,** Professor of Forestry, University of California. *McGraw-Hill American Forestry Series.* 394 *pages, illustrated*, $4.50

Valuable technical data on effects and influences of American forests. This book shows how to use forests to conserve water, control floods, prevent erosion, reclaim bare lands, etc. It explains the use of measurement instruments . . . discusses management programs that can help insure maximum yields of useable water . . . puts at your fingertips a wealth of diagrams, tables and flow sheets to help evaluate effects of forests on climate, water and soil.

**Other standard books of practical value which you may examine on approval**

### 3. Guide to Southern Trees

*By* **ELLWOOD S. HARRAR** and **J. GEORGE HARRAR.** *Whittlesey House Field Guide Series.* 712 *pages*, 201 *illustrations*, $4.50

### 4. Cone Bearing Trees of the Pacific Coast

*By* **NATHAN A. BOWERS.** *Whittlesey House Field Guide Series.* 170 *pages, illustrated*, $3.00

### 5. Trees of the Eastern United States and Canada

*By* **WILLIAM M. HARLOW.** *Whittlesey House Field Guide Series.* 288 *pages, illustrated*, $3.25

### 6. Commercial Tmbers of the United States

Their Structure, Identification, Properties, and Uses. *By* **H. P. BROWN** and **A. J. PANSHIN.** *American Forestry Series.* 554 *pages*, 311 *illustrations*, $5.50

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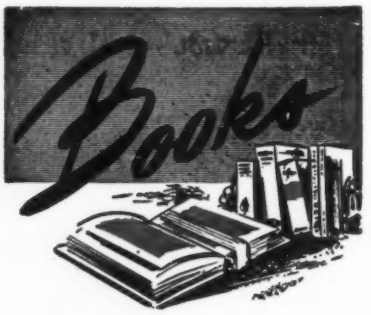


FORESTRY IN THE SOUTH, by C. F. Korstian and Lee M. James. Published by the Dietz Press, Inc., Richmond, Virginia, for the Southern Association of Science and Industry. 57 pages, illus. Price $1.50.

This is the first of twelve monographs on southern resources to be prepared by the Institute for Research in Social Science, University of North Carolina. It explores the forest resources of the South in terms of types and volume, growth and drain and analyzes the industrial uses and status of forest management in the perspective of multiple use. Resource findings are reported by Dr. James of the Southeastern Forest Experiment Station, while "A Program of Forestry for the South," is presented by Dr. Korstian, dean of the School of Forestry, Duke University, under whose leadership a committee of the Southern Association of Science and Industry developed it.

FISH PONDS FOR THE FARM, by Frank C. Edminster. Published by Charles Scribner's Sons, 597 Fifth Avenue, New York 17, N. Y. 114 pages, illus. Price $3.50.

This is the story of fish ponds, ancient and modern, how to design and build them and how to stock and manage them. Fish ponds date back a long way. The Chinese and Romans had them and the great Charlemagne in the eighth century gave his fish ponds close personal attention.

The uses of a fish pond are many. Author Edminster says. It serves as a source of water for livestock and for fire-fighting, as a place for swimming and recreation and most important, as a source of food and an important farm crop. The author, director of wildlife for the Soil Conservation Service, describes in detail the best location for the pond, the soil type and water supply needed, topography and drainage problems, the actual construction of a pond including what machinery can be loaned from government agencies, and landscaping problems of stocking and managing are analyzed.

**The publications listed below must be ordered direct from the addresses as given and not through the Association.**

*Timber Marketing in Eastern Ohio*, by H. R. Moore and O. D. Diller. Ohio Agricultural Experiment Station, Wooster, Ohio.

*Research Note* (No. 46) by Austin E. Helmers, Northern Rocky Mountain Forest and Range Experiment Station, Missoula, Montana.

*Trees and the Bible*, published by Texas Forest Service, A. & M. College, College Station, Texas.

*Fire as a Tool in Management of Brush Ranges*, by H. L. Shantz. California Division of Forestry, Sacramento, California.

*Hydrologic Aspects of Burning Brush and Woodland-Grass Ranges in California*, by Frank Adams, Paul A. Ewing, and Martin R. Huberty. California Division of Forestry, Sacramento, California.

*Measuring Water for Irrigation*, by J. E. Christiansen. Bulletin 588. University of California, Berkeley.

*Requirements and Properties of Adhesives for Wood*, by R. A. G. Knight, Forest Products Research Bulletin No. 20. British Information Services, 30 Rockefeller Plaza, New York City 20. Price 20 cents.

*Forest Resources of South Carolina*, by S. C. State Com. of Forestry, The American Forestry Association, and the S. C. Research, Planning and Development Board. State Com. of Forestry, Columbia.

*Passage of Liquids, Vapors and Dissolved Materials Through Softwoods*, by Alfred J. Stamm. Technical Bulletin 929. U. S. Dept. of Agriculture.

*Forestry and Forest Products*, World Situation 1937-1946. Food and Agriculture Organization of the United Nations, Washington, D. C.

*Minimum Cutting Practices for South Carolina*, by the Forestry Committee of South Carolina, 1946. South Carolina State Commission of Forestry, Columbia, S. C.

*Northeastern Loggers' Handbook*, by Fred C. Simmons. Preliminary Review Edition. Sec. 13—Cable Skidding. N. E. Forest Exp. Sta., 614 Bankers Sec. Bldg., Phila., Pa.

*Some Forest-Wildlife Problems in the Lake States*, by Shaler E. Aldous. Sta. Paper No. 6. Lake States Forest Exp. Sta., Univ. Farm, St. Paul 1, Minn.

*Lake States Forests and the Pulp and Paper Industry*, by E. L. Demmon. Sta. Paper No. 5. Lake States Forest Exp. Sta., Univ. Farm, St. Paul 1, Minn.

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## Key Men

(*From page* 359)

ket for the timber grown and conserved will return enough cash to pay back what has been spent on maintaining the forest. Somebody has had to pay for whatever work is done in forest management—not only the salaries and wages of the men required, but beyond that the taxes, the equipment and supplies, and various other items of expense.

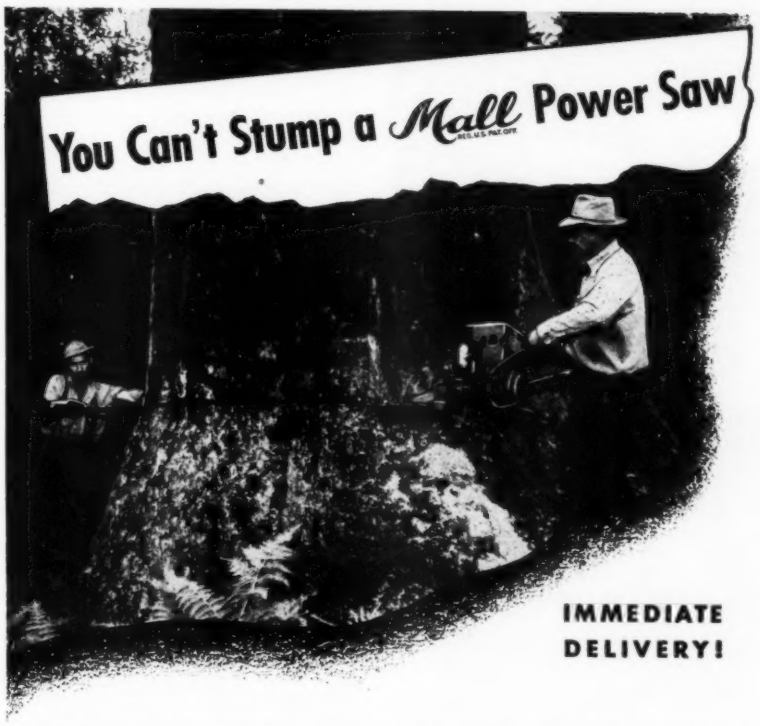
Hot arguments and impassioned appeals, in meetings and on paper, won't pay this bill. The man who buys the products of the forest has to do that. If he is willing to pay enough for what he wants, to justify someone venturing investments in maintaining a continuing supply of standing timber, there will be forestry. If the product is not competitively attractive enough to him that he will pay what it costs, including forest maintainance and with profit added, there will be no forestry. Or, more accurately and more important, if the timberland owner is not *convinced* that the consumer will be able and willing to pay this price there will not be forestry. The man who sells the consumer the product of the forest is at the same time (whether he knows it or not) also selling the services of the forester. It is he who *must* do it, if the forester's services are to be sold.

To lay out this money the timberland owner must be *confident* that he can realize a return on his investment. Such confidence comes, for most forest owners, from only one source—a truly volume market, a market so vast that he can be sure of fitting into it with the product of his well managed forest.

Volume, in timber products, means common lumber.

Oh, to be sure, there are other important forest products, and some of them are widely publicized, such as plywood and veneer, pulp and paper, posts, poles and piling. Various by-products occasionally take the public fancy for a while. But lump together *all* other uses of the timber cut by man, and they will not total as much as the amount of wood that goes into lumber.

In the lumber market, if anywhere, therefore, is the volume to sustain forestry, and hundreds of thousands of jobs in the timber industries. This is the basic commercial form of wood. In softwoods it must be construction lumber and box lumber. In hardwoods it must be furniture lumber and flooring lumber. These are the volume *types* of lumber markets, that


A Mall Power Saw goes anywhere . . . fells and bucks any tree. Self contained and exceptionally light in weight—it can be carried anywhere a man can walk. Its powerful Model 7 Gasoline Engine provides more than enough power to fell the biggest Douglas Firs or the softest Southern Pine. It cuts close to the ground to minimize stump waste and open the entire area to tractors and sulkies.

The new Mall Power Saws cost less and give you more. All models have handle throttle for positive finger control . . . an automatic clutch to prevent stalling . . . a removable tail-stock to facilitate removal from a cut . . . and a simple indexing lever to permit all angle cuts.

Three models are available for use with the Model 7 Gasoline Engine—the Mall Chain Saw—with capacities ranging from 18" to 12'—the Mall Bow Chain Saw for use on small size timber up to 24" in diameter—and the Mall Model 30 Circular Saw for one-man felling, limbing or bucking has 22" capacity.

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8-48

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sustain most of whatever forestry this country can afford to practice.

Softwood construction lumber in 1946 represented seventy percent of all softwood lumber production; and if you include flooring lumber (both hardwood and softwood) and other hardwood used, construction represented the market for sixty percent of all lumber production.

Furniture manufacture consumed fifteen percent of all hardwood lumber, and five percent of all lumber.

Sash, doors and general millwork are usually regarded as a large industrial market for lumber, and indeed they are—over one and three-quarters billion feet in 1940— but boxes and crates constitute an even greater market, better than four and a quarter billion feet in 1940. The wartime peak of box lumber use was fifteen billion feet.

Since these are the markets which mainly must pay forestry's bills, and pay for conservation of timber resources, it is important to foresters and conservationists—if they want action rather than more arguments—that these major markets be maintained at forestry-sustaining volume and price.

The markets are dominated by men, not words. They are key men in forestry, and wood as a material, because they are key men in lumber. Who the individual will be, on any particular construction job, will depend upon how that job is organized. Always, however, he is the one who, *in the opinion of the man exercising final authority on the job,* knows more than anyone else *at hand* about what lumber can do, what it will cost, and how to use it. In theory, perhaps, the "tops" in lumber knowledge may mean a book or a set of rules; but in practical application to construction it means some one person, some Mr. Lumber Skill. This person is selected, consciously or otherwise, by the "All Highest" who decides how the money is to be spent on that job.

Identity of the "All Highest" himself is quite important, for that matter. The genuine article would appear to be the man who finally will own the building when it is completed; to wit, the consumer. That is absolutely true if the aforesaid consumer has enough money socked away that he can pay cash on the barrelhead for whatever he wants to buy, and if he somehow chances to live in a locality where no building code or zoning ordinance will interfere, or if he has enough influence and other considerations that he can build as he pleases anyhow. That kind of a consumer is


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*with the collaboration of*
J. A. FITZWATER

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an "All Highest" in one neat and compact package.

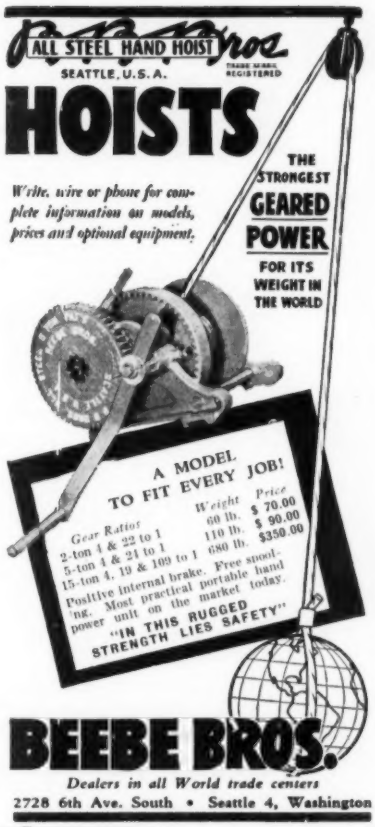
Such deluxe consumers are few and far apart. Much more often, the building job's "All Highest" will be a split personality, only part of which is that of the consumer. In many cases he will not even initiate the construction project but will buy what is offered him by a speculative builder, exercising his own will only to the extent of choosing between the products of various builders. These latter thus serve as "proxy" consumers during the building of the house; and he who is a proxy most often, and most profitably, is the one who best anticipates what the actual consumer will want—or will stand for.

Another part of this split personality is that professional proxy, the architect, especially if he not only designed the structure and writes the specifications for materials, but also superintends the construction itself. Another person of importance in the large commercial and industrial structures is the engineer, whose main function is to make sure that the building will not collapse under its load. Either an architect or engineer is likely to be keenly conscious of the fact that he is supposed to be an expert in his line, official representative of Art and Science on this job, and if either of them brooks any interference it is going to require a mighty suave job of interfering.

In a majority of construction jobs, large and small, residential and commercial and industrial, another very important factor is the general contractor. He looks over the plans and specifications, and estimates what they call for; then he looks over the customer, and estimates how closely he must follow the plans and specs, and contracts to build the structure for a certain stipulated price.

Still another factor is the city building inspector, watchdog of the building code and zoning ordinance.

Finally there is the mortgagee, who completes the "All Highest" personality and often dominates it. The greater the proportion of the total cost of the structure the mortgagee puts up, and the smaller the proportion the mortgagor (who is the consumer) is able to provide, the more interest Mr. Moneybags takes in the plans, specifications and actual construction. He must assume that the mortgagor will default, and that there will be a foreclosure, and that he (the mortgagee) must be able to sell the property to somebody else for enough to protect his interest.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Start with a design that's been proved and improved for years and years . . . Use "Silver Steel," Atkins special analysis band saw steel . . . Temper it the particular way Atkins does . . . Give it scientific heat treatment for maximum toughness and pliability . . . Grind it in specially developed machines for absolute uniformity of gauge . . . Turn it over to master saw makers for tensioning and leveling.

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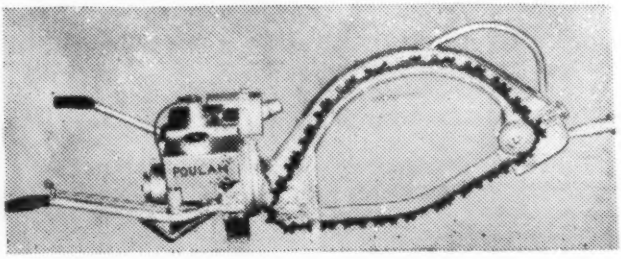


By using a Speed Saw Attachment in bucking operation, log may be in swinging position or lying flat on the ground. The cut can be completed without the use of pry pole or wedge. The advantages of these features alone will save approximately one man's salary. All cutting attachments can be swiveled and locked at any point of the 360° enabling you to fell as well as buck. The motor can be dissembled from the transmission by pulling one pin for inspection of clutch. MOTOR 2 Cycle, 6 H.P. Homelite Engine. CLUTCH—Automatic Centrifugal. Attachments available in 20" and 27" sizes. Also straight guides in sizes 21" to 49".

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8-48


This factor is further complicated, now, by the fact that the mortgagee is usually also a split personality—composed partly of the man, bank, or loan association that advances the actual cash for building, and partly of the United States government, which underwrites most of the loans made today. Not only must the money lender be satisfied with the plans, materials and construction, but also the representatives of the government agency which accepts liability for eighty to 100 percent of the cost of the house.

Federal Housing Administration, oldest and largest of these mortgage-insuring agencies, has taken on the job of protecting the home buyer from making any mistakes of judgment in buying or building a home.

These numerous factors, in the split-personality "All Highest" of building construction, I have mentioned in such detail because it seemed the only way to explain what a truly remarkable individual the key man of forestry must be, on any building job. To some extent he also is a split personality, relying upon the national lumber manufacturing and retail associations to key-man lumber with the FHA and other government agencies, and to supply the technical information with which architects and engineers may be properly impressed.

Even with FHA, however, the rules do not apply themselves. That is done by individuals, including inspectors who visit the construction job. Consumers, contractors, city building inspectors, and various others involved —they are all individuals, doing business with individuals, with persons. That is why the key man of lumber, and of forestry, is a person and not a book. Let *him* read the books, if necessary, and the rules—the others will rely upon his judgment.

How well informed he actually is about wood (including forestry), will depend upon how well informed this particular job's "All Highest" is, in selecting him. Will this key man of lumber be an experienced and progressive and energetic lumber dealer, or wood-wise contractor or speculative builder? Will he be, perhaps (rarely) a wholesale or commission distributor with local contacts so close and so alert that they can call him in when needed? Or will he —this key man—be just an order taker? Will he be, maybe, a real estate man with only scant knowledge of lumber, but determined to be his own lumber expert? Will he be an expert who loves lumber, but another material twice as well?

There are many possibilities, but whoever he is, this key man of lumber is the one who, if anyone does it, must direct the consumer's money (and the mortgagee's money) into channels that will help support forestry.

Furniture offers a situation similar in general principles, and different only in details. The amount of an individual sale is smaller than in the purchase of a house or factory, but the importance of the person in whom the consumer has confidence is no less. In this industry the key man may be a retail salesman who knows how to sell more and better wood furniture; he may be (in a large department store) the furniture buyer who knows how to select the kind of wood furniture which will best serve his store's customers, and knows how to train salesmen in presenting its good points most advantageously. Such men may create a demand for wood furniture, so insistent that no competing product will have a chance.

A manufacturer of wood furniture, with a plant and personnel set up for the production of wood furniture, may be the key to hundreds or thousands of sales, as he tackles the two-way-traffic job of inducing consumers to demand what he can and does produce, and of producing what he knows consumers can and will be induced to buy.

In all these cases, and others for which there is no time or space to mention, the key men of forestry have these two things in common: they need to be kept informed of anything and everything which will help them sell; and it is folly to take them for granted, assuming that they will always be key men *for* lumber if competing materials beckon too, too lusciously.

Faced with a disturbing situation like this, one probably will wonder what's to be done about it. At the same time, one probably will realize that relatively few will do anything about it at all, beyond an occasional grunt, worry or complaint.

One exception is the advertising campaign recently begun in behalf of West Coast woods. But advertising alone will not be enough.

This one thing anybody can do, no matter where he fits into the forest industries picture—he can stop taking other members of the team for granted. The usual and thoroughly human practice is to assume that every other man in the forest industries is somehow "frozen" in his present position, and even in his present methods of working or doing business. The perfectly natural tendency, therefore, is to decide that since the man is "stuck with" the business or job he has, in wood, one might as well make sure that he is carrying all the load he can carry.

As one notable example, many sawmill men had this mad notion about their distributors (both wholesale and retail markets) in the war years and for some time afterward. The "see your local lumber dealer" angle in current West Coast advertising is tangible evidence that these manufacturers at least do not have any such notion now. Also, I hear that an advertising campaign in behalf of southern pine is being planned, and that this likewise will be aimed at bringing the customers into the retail yards. However, one dealer already has served notice on most southern mills that it will take more than any ten-cents-a-thousand expenditure to win back his affections.

It seems it would be possible to think up a lot of things which a manufacturer of lumber ought to be required to do, in order to be allowed to make lumber. If such a mill man were so set up that he simply *has to* keep on manufacturing lumber—has no choice in the matter—this system might have some chance of working.

It would be well to temper reforming instincts with a desire to make sure that all the men "on our side" stay in the business that helps make forestry financially worthwhile, and therefore financially possible.


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But the average family can't be fooled with a myth. The average family needs to know that there are *real* savings, *real* security protecting them, good times and bad.

**That's why so many families** have begun to save the automatic, worryless way—with U. S. Savings Bonds.

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And to make it simpler still, your government offers you two fine plans for their purchase: (1) The Payroll Savings Plan at your firm. (2) For those not on a payroll, the Bond-A-Month Plan at your bank.

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*Contributed by this magazine in co-operation with the Magazine Publishers of America as a public service.*

U.S. SECURITY LOAN

## Our Growing Water Problem

(*From page* 350)

ably become mandatory. The Los Angeles area will then have to decide between orange groves and airplane factories.

Turning to the East, the south Atlantic drainages suffer from erosion that has occurred on millions of acres of steep agricultural land—much of it worn out and abandoned. In addition to increased silting, the incapacity of the bare soils to store water has changed the character of the streams — the flow has become much more irregular than it was under pristine conditions, and flood stages are higher and come more frequently. Roughly the same conditions exist on the drainages of the Piedmont and Atlantic and Gulf Coastal plain.

The vast Ohio Valley has witnessed many rampaging floods on the main stream and its tributaries in recent years. Residents of the cities and towns along the Ohio have come to dread recurrent if not almost annual spring inundation. Moreover, domestic water supplies are inadequate in many places and too frequently are drawn from contaminated sources.

(*To be concluded in September*)

## On to Chattanooga!

(*From page* 360)

ciation, presiding, the conference will hear Representative Hope, Governor McCord of Tennessee, and others in a morning session. In the afternoon, after a visit to historic Lookout Mountain and the Chattanooga-Chickamauga National Monument, the first of a series of field trips will take those attending the conference to north Georgia for a farm woodland management demonstration — the results of landowner-timber operator cooperation in selective cutting. On the return to Chattanooga, a stop will be made at Ashland Farms, noted for its mansion house, gardens and old grist mill.

The panel discussion on the effectiveness of present programs designed to bring the small woodlands of the country under management will be held in the evening. Like all sessions of the Annual Meeting, the public not only is invited but urged to attend and to take part in this forum.

On October 9 there will be field trips to Chickamauga Dam, navigation locks and shoreline reforestation project, and a luncheon meeting at Signal Mountain Park, with Paul Martin of the State Conservation Department as the speaker. In the afternoon the conference will inspect the Horseshoe Properties of Cartter Patten of Chattanooga—17,000 acres of former over-exploited timberland now being rehabilitated.

The American Forest Banquet will be held at the Patten Hotel in the evening, with Stanley F. Horn, editor of *The Southern Lumberman*, serving as toastmaster. Principal speaker will be TVA Chairman Gordon Clapp.

On October 10, those attending the conference will move by bus and private cars to Fontana Village at Fontana Dam in North Carolina, a distance of 156 miles. Stops en route will be made at Ocoee Gorge, Copper Hill Basin and famous Ducktown.

The meeting will adjourn on October 11 at Fontana after a short business meeting, reports of the various committees, inspection of Fontana Dam and a visit to the Joyce Kilmer Memorial Forest in the Nantahala National Forest.

**MAKE YOUR RESERVATIONS NOW**

**AFA members planning to attend the Chattanooga meeting are urged to make reservations as soon as possible so as to be assured of comfortable accommodations both at Chattanooga and Fontana Village. Merely write The American Forestry Association, 919 Seventeenth Street, Northwest, Washington 6, D. C., indicating the accommodations desired.**

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## Taxes and Tree Growing

(*From page* 355)

the products grew. With the imposition of this tax forestry appears to have taken considerable forward strides in Mississippi. Old growth was very nearly exhausted when the new law became effective, and it is applicable to all forest growth that enters into commerce from now on.

While it is acknowledged that heavy taxation was most burdensome upon stands of old-growth timber, because of tremendous and rapid increase in value, there are many who contend that taxes are excessive today in sections where new forests have been grown and regrown. New England and the Lake States are cited as examples. In these regions, so it is said, the usual result of special tax laws—reduction of assessments under the property tax — has failed to materialize. Down in Maine a recent study by the U. S. Forest Service disclosed that tax assessments are inequitable; small properties are overassessed, large frequently are undervalued because of improper or erroneous descriptions. In short, present assessments in the towns studied do not reflect the relative value of forest properties.

Yet it is stated that forest land assessments can be made more equitable by formulation and adoption of standard assessment procedures. Maps are a first essential, and thanks to modern aerial photography it is now possible to prepare maps which will show the kinds and value of land and tree or other growth upon entire townships or other taxing units. In fact, aerial photographs offer probably the best means of determining what really is on the ground. Given indisputable evidence as to the kinds of forest cover and its density, town and county and state authorities can arrive at satisfactory schedules of land and timber values and can make rules for their application. Thus it appears possible to do away with the old abuses of personal favoritism, misrepresentation and downright ignorance which have made a shambles of the property tax in forested regions.

During the span of United States history, forestry—meaning deliberate growing of trees for commercial use —has had rather difficult sledding. Those who would engage in such business have been harassed by costs of producing salable wood and by their inability to obtain fair prices for what they had to sell. Recurrent losses from fire, wind, insects and disease have been prominent in the picture. And, of course, the traditional forest industry cycle of "boom and bust" has formed a background for tragedy. The fact that forestry is sitting pretty today, by virtue of high stumpage prices, should not cause complacency. It does, however, provide an opportunity for a breathing spell which can be used for study of some of the things that have been bad in the past.

In general the situation probably can be fairly summarized by saying that so long as timber conversion was a "wasting industry" and not self-perpetuating through forest culture, the property tax was an instrument used for getting all the traffic would bear and frequently more. Now that forestry has become a practicable enterprise, the same sort of tax appears to exhibit a somewhat different set of faults, chiefly those of careless or willfully inequitable administration. In many states, where special tax relief measures were enacted, such new laws were effective in causing taxing authorities to reduce assessments to low levels and so retaining the old property tax on a tolerable basis. Response to the new taxing system was less than had been expected. Yet it is widely felt that such experimentation should be continued along various lines, since even partial success is a step in the direction of promoting tree growing. And, meanwhile, there is a challenging field for action to improve the manner of applying the property tax.

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## *The Purpose*

The American Forestry Association is a national organization—educational in character—for the advancement of the intelligent management and use of the country's forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is (1) to bring about adequate protection and perpetuation of these resources by creating an enlightened public appreciation of the need of conserving them through wise use for the present and future welfare and enjoyment of all the people; (2) to make available to Americans in all walks of life a wider knowledge and appreciation of their forest resources and the part they can play in the social and industrial life of our nation.

*The History* MORE THAN half a century ago American men and women of vision, stirred by the rapid destruction of forests and forest life in the United States, began to raise their voices in behalf of conservation. Foreseeing the danger of allowing America's rich forests and vast natural wealth to be thoughtlessly wasted, these public-spirited individuals protested the needless destruction that was taking place. Out of their efforts came a collective force—The American Forestry Association, first organized in 1875 and made a national influence in 1882.

*The Record* THUS The American Forestry Association has a long record of efficient public service. The establishment of the United States Forest Service and the creation of the nationwide system of state and national forests and parks were due in no small part to the Association's efforts. Its educational work, extending over more than seventy years, has stimulated public action and built public support for protection against forest fires and floods; for prevention and control of soil erosion; for the development of conservation policies in forest management for continuous production through wise use; for the control of forest insects and diseases and the preservation of fish and wildlife.

*The Support* FROM AN ORGANIZATION of a few hundred members a half century ago, the Association has attained a substantial membership of many thousand men and women, living in every state of the Union and in foreign countries throughout the world. The funds of the Association are administered by a Board of Directors composed of individuals of national standing—men and women who give their services free, who have a practical understanding of the nation's present-day conservation needs, and are equipped through experience, ability, enthusiasm and training to advance the Association's program.

*The Program* BECAUSE OF its independent, non-political character, the work of The American Forestry Association is vitally necessary in the field of public service. It provides an unprejudiced influence for the development of sound conservation measures. It helps coordinate public, state and federal policies. It cooperates closely with federal, state and private agencies in conservation work. At the same time it initiates, sponsors and carries on needed projects in conservation in addition to its regular broad continuous program of education.


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